Pacific Gas and Electric Company

WORK ORDER
COUNTY OF SAN LUIS OBISPO IMPLEMENTATION PROJECT

This WORK ORDER ("Work Order"), effective as of _____, 2015 ("Work Order Effective Date") is made and entered into by and between the County of San Luis Obispo, a County in California ("Customer") and Pacific Gas and Electric Company ("PG&E" or "Contractor"). This Work Order is subject to the terms and conditions of the PG&E Services Agreement between Customer and PG&E entered into on or about November 25, 2014 ("Services Agreement"). Customer and PG&E are referred to collectively as the "Parties."

In accordance with the provision of the Services Agreement, the Customer wishes to engage PG&E to provide the Implementation Work, defined below in Section 1, subject to the terms of the Services Agreement and hereby notifies PG&E to commence work on the following Project:

PROJECT NAME: County of San Luis Obispo – Energy Efficiency Projects, comprised of the following two projects:
WBS # 320070- Energy Efficiency Capital Projects, and
WBS # 350123 Energy Efficiency Maintenance Projects.

CONTRACT No.: SST-COSLO-002

AMOUNT OF WORK ORDER: Project #320070: $2,846,827.00
Project #350123: $1,680,332.00
Total Contract: $4,527,159.00

1. SCOPE OF WORK

1.1 PG&E will procure equipment for, construct, implement and deliver to Customer those measures described in the Scope of Work ("SOW") at the designated Customer facilities described in the SOW (each facility a "Site" and collectively the "Sites"). The SOW is attached hereto as Exhibit A and incorporated by reference herein. The services to be performed under this Work Order shall be referred to hereinafter as the "Implementation Work".

PG&E shall have no obligations to perform any Implementation Work under this Work Order unless and until PG&E and Customer have signed this Work Order. The issuance of this Work Order does not commit PG&E to perform any future work for Customer.

1.2 Subcontractors. PG&E reserves the right to engage third party subcontractors ("Subcontractors") to perform some or a portion of the Implementation Work. PG&E agrees that, as between PG&E and Customer, PG&E shall be solely responsible for the Subcontractors performance of the Implementation Work under this Work Order. In addition, unless otherwise set forth in this Work Order, the fees and costs billed to Customer shall be inclusive of any and all fees and compensation due to any Subcontractors. PG&E shall be responsible for the payment of any compensation, monies, wages or other payment due or allegedly due

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Subcontractors. For purposes of this Agreement, PG&E and its Subcontractors shall be collectively referred to as "PG&E".

1.3 Term of Work Order. This Work Order shall commence upon the Work Order Effective Date and continue until April 28, 2017; unless sooner terminated or extended as permitted under the Services Agreement (the Work Order Term").

2. PERFORMANCE OF THE IMPLEMENTATION WORK

2.1 Project Construction

2.1.1 PG&E's Responsibilities. On the date Customer in writing authorizes and directs PG&E to commence construction of the Project, PG&E shall commence and complete construction and implementation of the Project in accordance with the Services Agreement, this Work Order, the attached SOW and any applicable Change Orders. PG&E will provide all professional and other services, labor, materials, equipment, tools, transportation and other services necessary for the proper performance and completion of the Implementation Work. PG&E will be responsible for the means, methods, techniques, sequences and procedures to implement the Project, and shall oversee Project construction. PG&E shall be responsible for preparation of the Site for the Implementation Work. It is acknowledged and agreed that PG&E, working on Customer's behalf, will provide all services to obtain all permits and approvals necessary to proceed with the Implementation Work. Permitting fees will be the responsibility of the Customer.

2.1.1.1. PG&E will use commercially reasonable efforts to minimize disruption to Customer's use and operations at the Site. PG&E will provide at least ten (10) calendar days written notice to Customer of any planned power or other utilities outages that will be necessary for the Implementation Work. Customer will cooperate with PG&E in scheduling such outages, and Customer agrees to provide its reasonable approval of any scheduled outage.

2.1.1.2. PG&E shall take all reasonable precautions to ensure the safety and protection of PG&E personnel, Subcontractor employees and Customer employees.

2.1.2 Customer's Responsibilities.

2.1.2.1. Customer will take reasonable measures to provide PG&E, its personnel and Subcontractors with site access, suitable office space and other reasonable accommodations and facilities necessary to permit PG&E personnel and its Subcontractors to perform the Implementation Work on this Project. While working on the Site, if requested by Customer, the PG&E Project team personnel will be located in an area adjacent to Customer's subject matter experts and technical personnel, and all necessary security badges and clearance

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will be provided for access to this area, all in accordance with Customer's vendor policies. Additionally, upon request Customer will provide to PG&E and its Subcontractors relevant site information or documents necessary to perform the Implementation Work, including but not limited to a copy of this Work Order, all Change Orders, the Services Agreement, a copy of relevant drawings, specifications, operation and maintenance manuals for equipment at the Site, and other pertinent documents.

2.1.2.2. Customer will arrange for a temporary staging area for the storage and assembly of equipment for completion of the Implementation Work, if needed.

2.1.2.3. Customer will coordinate the Implementation Work to be performed by PG&E with the Customer's operations and other activities and with any other construction project that is ongoing at or around the Site.

2.2 Commissioning Services. PG&E shall perform commissioning services in accordance with the equipment manufacturers' startup and commissioning recommendations.

2.3 Certificate of Substantial Completion. Promptly upon substantial completion of each Project measure, PG&E will submit a Certificate of Substantial Completion to Customer for such measure. Upon receipt of such certificate, Customer may inspect the Implementation Work and meet with PG&E's Project Manager to determine if the Project measure has achieved substantial completion. Customer shall, within ten (10) business days of receipt of the Certificate of Substantial Completion, inform PG&E if Customer agrees that the Project measure has achieved substantial completion. If Customer disagrees that the Project measure has achieved substantial completion, Customer will specify in detail and in writing the deficiencies requiring correction in order to achieve substantial completion. When substantial completion has been achieved it will execute and return the Certificate of Substantial Completion to PG&E stating that: (i) the Project measure has achieved substantial completion and the date on which it did so, and (ii) that on and after that date Customer will assume responsibility for the Project measure's operation, maintenance and repair, for damage to or destruction of the Project measure, and for the Project measure's security and insurance coverage. Title to the Project measure materials and equipment installed pursuant to this Work Order shall pass to Customer on the date of substantial completion together with equipment warranties.

2.4 Close-Out Documentation. Within forty-five (45) days after each Certificate of Substantial Completion has been executed by Customer and received by PG&E, PG&E shall provide Customer with (a) any applicable governmental approvals, permits, and sign-offs, (b) all equipment specifications and ratings, (c) any applicable test data and reports, (d) final as-built and shop drawings, (e) operating instructions, operations and maintenance manuals and schedules, recommended spare parts lists, and all other written information relating to the Project measure, and (f) equipment warranties.

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2.5 Final Completion. Promptly after PG&E reasonably believes that Final Completion has occurred, PG&E shall issue to Customer a Notice of Final Completion (defined below in Section 2.5.1). Thereafter, Customer shall, within fourteen (14) business days, deliver its acknowledgment that Final Completion has been achieved. The date of Final Completion shall be the date of Customer's written acceptance of PG&E's Notice of Final Completion. Customer's failure to respond within the fourteen (14) day notice period shall be deemed acceptance that Final Completion has occurred.

2.5.1 For purposes of this Work Order, the term "Final Completion" means the date when all of the following have been accomplished: (a) each Project measure has achieved Substantial Completion, (b) all "punch list" items have been completed, (c) all Close-out documentation has been delivered to Customer, (d) PG&E has delivered to Customer: (i) a release of all lien rights, (ii) certification that all claims for payment for labor and equipment for which PG&E is responsible have been paid or satisfied, (iii) copies of waivers/releases of lien rights by Subcontractors that have furnished more than twenty-five thousand dollars ($25,000) of goods, services or both for the Project, (iv) notice of all outstanding claims of PG&E, any Subcontractor or equipment or materials supplier or distributor that may affect Customer, PG&E or the Project, (v) a letter of indemnification regarding claims not addressed by waivers/releases, and (vi) removal of all of PG&E and Subcontractors' personnel, supplies, equipment, waste materials, rubbish, and temporary facilities from the Site.

3. ORDER OF PRECEDENCE

In the event of a conflict between the provisions of the Work Order, the Scope of Work, and the Services Agreement, the following order of precedence shall apply (in descending order): (a) this Work Order, (b) the Scope of Work, and (c) the Services Agreement.

4. CHANGE ORDERS

If a Change occurs and a Change Order to this Work Order is necessary, the Parties agree to follow the Change Order process set forth in Section 4.2 of the Services Agreement.

5. AUTHORIZATION

Upon receipt of the Work Order, Customer shall review the Work Order and verify that the terms of the Work Order are acceptable to Customer. Customer's execution of this Work Order shall indicate its acceptance of the terms and conditions set forth herein.

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6. PAYMENT

6.1 PG&E will submit monthly invoices to Customer based upon an agreed upon percentage completion of each task line item in the Schedule of Values (Exhibit B), which is attached hereto and incorporated by reference herein.

6.2 Each PG&E invoice will reference this Work Order and be submitted to Customer's billing address, which is 1087 Santa Rosa St, San Luis Obispo, CA 93401 . Customer shall render, or instruct its financial institution to render, all payments to PG&E within thirty (30) days from the invoice date. Each payment made by Customer or its third party designee must reference this Work Order and invoice number and be mailed to:

PACIFIC GAS AND ELECTRIC COMPANY
Attn: Sales and Service Manager, Business Development
P.O. Box 770000, Mail code: N10D
San Francisco, CA 94177

6.3 Payment Disputes. If a payment dispute arises under this Work Order that is not settled promptly in the ordinary course of business, the parties shall first seek to resolve any such dispute between them by negotiating promptly in good faith negotiations. These negotiations shall be conducted by the respective designated senior managers (Director level or above) of each party responsible for their relationship, and shall be escalated internally by each party as reasonably necessary to seek resolution of the dispute. If the parties are unable to resolve the dispute between them through these negotiations within thirty (30) business days following their commencement (or within such other period as the parties may otherwise mutually agree upon), then the parties shall escalate the dispute to their most senior executives within their organization (VP level or above). Notwithstanding anything to the contrary in the Agreement or this Work Order, pending the resolution of the issues(s), PG&E may temporarily suspend its performance of the Implementation Work until such dispute has been resolved.

7. NOTIFICATIONS AND INTERFACE

Both Parties shall contact and/or deliver written notices (email is allowed) to the business contacts below in the normal course of business, and in the event of any problems which may significantly affect the performance of the Implementation Work under this Work Order.

_____ _____ initials

Pacific Gas and Electric Company

BUSINESS CONTACTS

CUSTOMER REPRESENTATIVE

Name	Margaret Mayfield
Title	Assoc. Capital Projects Coordinator
Address	1087 Santa Rosa St
	San Luis Obispo, CA 93401
Telephone	805-781-1523
Email	mmayfield@co.slo.ca.us

PG&E REPRESENTATIVE

Name	John Garnett
Title	Sr. Product Manager
Address	245 Market Street, Mail Code N10D
	San Francisco, CA 94105
Telephone	415-972-5402
Email	J7GB@PGE.com

CUSTOMER BILLING CONTACT

Name	Emily Marks
Title	Accounting Technician
Address	1087 Santa Rosa St
	San Luis Obispo, CA 93401
Telephone	805-781-1509
Email	emarks@co.slo.ca.us

8. OWNERSHIP OF EQUIPMENT

8.1 Ownership and title to any equipment purchased by PG&E on Customer's behalf pursuant to this Work Order will be transferred to Customer upon Customer's payment for the particular equipment and no further agreement will be necessary to transfer ownership to the Customer.

8.2 PG&E shall not be liable for any claims, liabilities, or losses arising out of, resulting from or in any way connected with Customer's use of the equipment.

9. AUTHORITY

Each Party represents and warrants that the individual signing below, as well as any Change Orders and approvals hereunder, has and shall have all requisite power and legal authority to bind the Party on whose behalf he/she is signing to that Party's obligations hereunder.

_____ _____ initials

Pacific Gas and Electric Company

IN WITNESS THEREOF, the parties agree to be bound by this Work Order as of the date first set forth above.

COUNTY OF SAN LUIS OBISPO		PACIFIC GAS AND ELECTRIC COMPANY	
Signature:	Marv-ARose	Signature:	
Print Name:	Marvin Rose	Print Name:	
Title:	Interim Director, General Services Department	Title:	
Date:	10/21/15	Date:	

APPROVED AS TO FORM AND LEGAL EFFECT

Signature:	
Print Name:	David Stotland
Title:	Deputy County Counsel
Date:	10/21/15

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EXHIBIT A

SCOPE OF WORK
(Including Assumptions, Clarifications and Exclusions)

PROJECT SCOPE SPECIFICS – COUNTY OF SAN LUIS OBISPO

STATEMENT OF WORK

Scope of Work (SOW) Overview

The scope of work consists of:

1. ECM 1: Lighting retrofits for the Annex, Old Government Center, Old Courthouse, New Government Center, Main Jail, Honor Farm, Health Campus and Health Lab,
2. ECM 2, 3: Variable flow upgrades for chilled water and heating hot water systems at the Government Center Complex,
3. ECM 6: Central plant upgrades at the Government Center Complex,
4. ECM 7: Central plant upgrades at the Health Campus,
5. ECM 8: Underfloor air distribution modifications for the new Government Center,
6. ECM 19: Kitchen hood controls for the Honor Farm,
7. ECM 20: Personal computer controls for the Department of General Services and Planning computers, and
8. ECM 21A: Energy management control system upgrades for various remote County buildings.

Scope of Work (SOW)

i) ECM-1 Lighting Upgrades:

(1) ECM-1a Annex

Provide all necessary supervision, material, equipment and labor necessary to relamp the existing 4' linear and u-bend fluorescent fixtures, incandescent and compact fluorescent fixtures, mercury vapor fixtures, and exterior high pressure sodium bollard fixtures; and retrofit the exterior mercury vapor wall packs. Work to include 12 watt (nominal) and 16 watt (nominal) T8 tubes and 8 watt (nominal) to 63 watt (nominal) LED lamps/fixtures. For detailed scope and predicted counts, refer to the lighting schedule located in Appendix A.

(2) ECM-1b Old Government Center

Provide all necessary supervision, material, equipment and labor necessary to relamp the existing 2', 4' linear and u-bend fluorescent fixtures, incandescent and compact fluorescent fixtures, mercury vapor fixtures; and retrofit the exterior mercury vapor wall packs. Work to include 12 watt (nominal) and 16 watt (nominal) T8 tubes and 8 watt (nominal) to 108 watt (nominal) LED lamps/fixtures. For detailed scope and predicted counts, refer to the lighting schedule located in Appendix A.

(3) ECM-1c Old Courthouse

Provide all necessary supervision, material, equipment and labor necessary to relamp the existing 2', 4' linear and u-bend fluorescent fixtures, incandescent and compact

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fluorescent fixtures, halogen fixtures and high pressures sodium fixtures. Work to include 12 watt (nominal) and 16 watt (nominal) T8 tubes and 8 watt (nominal) to 19 watt (nominal) LED lamps/fixtures. For detailed scope and predicted counts, refer to the lighting schedule located In Appendix A.

(4) ECM-1d New Government Center (Board Chamber)
Provide all necessary supervision, material, equipment and labor necessary to relamp the 4' linear fluorescent fixtures, compact fluorescent fixtures and halogen fixtures. Work to include 12 watt (nominal) and 16 watt (nominal) T8 tubes and 7 watt (nominal) to 11 watt (nominal) LED lamps/fixtures. For detailed scope and predicted counts, refer to the lighting schedule located in Appendix A.

(5) ECM-1f Main Jail
Provide all necessary supervision, material, equipment and labor necessary to relamp the existing 4' and 8' linear fluorescent fixtures, incandescent and compact fluorescent fixtures, metal halide fixtures; and retrofit the high pressure sodium and metal halide exterior fixtures/wall packs. Work to include 12 watt (nominal) and 42 watt (nominal) T8 tubes and 11watt (nominal) to 63 watt (nominal) LED lamps/fixtures. For detailed scope and predicted counts, refer to the lighting schedule located in Appendix A.

(6) ECM-1h Honor Farm
Provide all necessary supervision, material, equipment and labor necessary to relamp the existing 4' linear fluorescent fixtures, incandescent and compact fluorescent fixtures, exterior compact fluorescent fixtures; and retrofit the metal halide high bay fixtures. Work to include 12 watt (nominal) T8 tubes and 8watt (nominal) to 126 watt (nominal) LED lamps/fixtures. For detailed scope and predicted counts, refer to the lighting schedule located in Appendix A.

(7) ECM-1i Health Campus
Provide all necessary supervision, material, equipment and labor necessary to relamp the existing 2', 4' and 8' linear and U-bend fluorescent fixtures, incandescent and compact fluorescent fixtures; and retrofit the halogen and high pressure sodium fixtures. Work to include 12 watt (nominal) to 42 watt (nominal) T8 tubes and 8 watt (nominal) to 126 watt (nominal) LED lamps/fixtures. For detailed scope and predicted counts, refer to the lighting schedule located in Appendix A.

(8) ECM-1j Health Lab
Provide all necessary supervision, material, equipment and labor necessary to relamp the existing 2' and 4' linear fluorescent fixtures, incandescent and compact fluorescent fixtures; and retrofit the metal halide exterior wallpacks. Work to include 12 watt (nominal) T8 tubes and 8 watt (nominal) to 17 watt (nominal) LED lamps/fixtures. For detailed scope and predicted counts, refer to the lighting schedule located in Appendix

ii) ECM-2 and 3 Government Center Complex Variable CHW and HHW:

(1) Replacement of the existing three-way CHW control valves with two-way control valves.
   (a) New Government Center - install (3) CHW 2-way valves for (3) AHUs. Provide and install a differential pressure sensor located within the New Government Center at the most remote AHU.
   (b) Old Courthouse – install (1) CHW 2-way valve for (1) AHU, and (80) CHW 2-way valves for (80) FCUs. Provide and install a differential pressure sensor located within the Old Courthouse at the most remote AHU or FCU.

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(c) Old Government Center – install (4) CHW 2-way valves for (4) AHUs, and (7) CHW 2-way valves for (7) FCUs. Provide and install a differential pressure sensor located within the Old Government Center at the most remote AHU or FCU.
(d) Annex – install (24) CHW 2-way valves for (24) FCUs. Provide and install a differential pressure sensor located within the Annex at the most remote FCU.
(e) Library – install (30) CHW 2-way valves for (30) FCUs. Provide and install a differential pressure sensor located within the Library at the most remote FCU.

(2) Replacement of the existing three-way HHW control valves with two-way control valves
(a) New Government Center - install (3) HHW 2-way valves for (3) AHUs, and (3) HHW 2-way valves for (3) reheat coils. Provide and install a differential pressure sensor located within the New Government Center at the most remote AHU.
(b) Old Courthouse – install (1) HHW 2-way valve for (1) AHU, and install (80) HHW 2-way valves for (80) FCUs. Provide and install a differential pressure sensor located within the Old Courthouse at the most remote FCU.
(c) Old Government Center – install (4) HHW 2-way valves for (4) AHUs, and (7) HHW 2-way valves for (7) FCUs. Provide and install a differential pressure sensor located within the Old Government Center at the most remote AHU or FCU.
(d) Annex – install (24) HHW 2-way valves for (24) FCUs. Provide and install a differential pressure sensor located within the Annex at the most remote FCU.
(e) Library – install (30) HHW 2-way valves for (30) FCUs. Provide and install a differential pressure sensor located within the Library at the most remote FCU.
(f) All existing 2-way coil control valves will remain, and are located on reheat coils in the New Government Center, Old Courthouse, and Old Government Center.

(3) The reprogramming of the pumping sequences in the Delta EMCS. Refer to the detailed controls scope in ECM 6 (next section).
(4) Replace the six (6) ½ - ¾ HP Annex CHW and six (6) ½ - ¾ HP HHW booster pumps with one new variable flow pump for the CHW system and one for the HHW system. Pumps are B&G 1531, close coupled, end suction (estimated at 250 gpm, 120 feet of head, 15 HP) or equal, with piping stubs for a redundant pump and new shutoff valves in the pump closet. VFDs are Schneider Electric Type (Square D), with bypass.

iii) ECM-6 Chiller Replacement - Government Center Complex:

Mechanical Scope

(1) Install two (2) Turbocor 250 Ton (nominal, or equivalent) magnetic bearing, R134A, centrifugal chillers.
(2) Demolish and dispose of existing 150 and 250 Ton Trane Centrifugal chillers and the 160 Ton Thermax absorber, existing primary pumps
(3) Shut isolation valves to pumps and chiller evaporator and condenser
(4) Drain water and properly dispose
(5) Disconnect power to units
(6) Rig Chillers through large wall louver located at the alley side of the chiller room.
(7) Existing pads to be reused for chillers.
(8) Provide and install two (2) primary CHW pumps (estimated at 600 gpm, 50 feet of head). Pumps are B&G 1531, close coupled, end suction, with 15 HP motor.
(9) Modify existing piping to accommodate new chillers. New piping will match existing, predominately Victaulic connections unless Welded Black Iron is existing.

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(10)Provide and install 8" S and R piping with stub out connections for future 300 Ton machine
(11)Provide and install vibration isolation and seismic anchorage of chillers and pumps
(12)Provide and install butterfly shut off valves, all required bypass valves, fittings, temperature and pressure gauges, Pete's plugs, etc.
(13)Provide new expansion tank and air separator for CHW system
(14)Provide and install insulation and repair any damaged insulation
(15)At this time removal and demolition or salvage of the (3) existing non-operational cogen units is not included in this scope of work.
(16)Upgrade chemical treatment to a Wall Chem Web Master - Conductivity Controlled Chemical Feed type system
(17)Upgrade refrigerant alarm and exhaust system as per ASHRAE 15 requirements:
  (a) Provide new refrigerant monitoring system for two new chillers (SHERLOCK 202 from Genesis International, Inc. or equivalent) with remote refrigerant sensor(s) and strobes / horns in the mechanical space and at each exit as required by CA code.
  (b) Properly mount new monitor and provide 120V power circuit from the nearest available 120V circuit board.
  (c) Locate refrigerant sensor(s) to properly detect a refrigerant release for either new chiller
  (d) Provide new annunciation circuits in conduit from new refrigerant monitor enclosure to each strobe / horn.
  (e) Configure and commission monitor alarm logic with up to two alarm levels.
(18)All secondary pumps to remain, with the exception of the booster pumps for the Annex.
(19)Provide all new control devices including controllers, sensors, transducers, and switches that are necessary to meet the requirements of the new optimization sequences. Existing control devices that are in good working order will be reused.
(20)Install new conduit and low voltage wiring including sensor wiring, equipment control panel wiring, RS485 network wiring and CAT5/5E Ethernet cable as needed to meet the project requirements.
(21)During demolition phase – peel back and safeguard existing sensor wiring that will be re-used for equipment that will be replaced (e.g. chillers)
(22)Rewire control cables as needed to existing control devices and equipment.
(23)Install new conduit (as necessary) and wire to new control devices.

Controls Scope

(1) Demolition
  (a) Remove all control points and associated programming from the existing Delta Controls EMCS for equipment that will be removed from the Central Plant and will no longer exist (e.g. cogeneration system, CH-3, Heat Recovery System [HX-1], etc.). To help ensure reliability and stability of the remaining EMCS, all points and programming associated with equipment being eliminated must be removed from the database.
  (b) Remove obsolete control cabling from control panel terminations.

(2) **BTU Meters** – Two existing Onicon "System-10" BTU meters are currently installed in the plant. Each BTU meter is comprised of a pair of factory calibrated matched temperature sensors, an insertion style electromagnetic F-3500 Series flow meter and a control panel with LCD display. These BTU meters monitor the following:

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(a) Heat recovery from HX-1. The flow meter and temperature sensors are installed in the 4" HHW supply and return lines serving HX-1.
(b) Chilled water from CH-3. The flow meter and temperature sensors are installed in the 6" CHW supply and return lines serving CH-3.
(c) These two (2) BTU meters shall be re-used for the two (2) new chillers and devices mounted on the CHW supply and return lines.
(d) Prior to pipe demolition, safely disconnect and safeguard all sensor (temperature sensors and flow meter) wiring for future use. Remove sensing devices and set aside in a safe and secure area for future use.
(e) Provide new calibration of existing devices (e.g. flow meters and BTU panels). Per manufacturer, devices can be reprogrammed to accommodate new operating parameters (e.g. flow ranges) and can be re-configured for different pipe sizes. Contact Onicon for details including updated software and new calibration labels.
(f) Remove existing mounting kits (i.e. ball valves & nipple fittings) associated for each of the BTU sensing devices for re-use in the new chiller piping.
(g) For each of the new chillers, reinstall mounting kits in new dedicated chiller CHW piping per Onicon's recommendations (e.g. flow meter location should have 10 pipe diameters upstream / 5 pipe diameters downstream of straight pipe; reference installation manual).
(h) Reinstall existing sensing devices thru associated installation kits and into new CHW pipe.
(i) Relocate existing "CHW" BTU Control Panel to location near CH-1. Similarly, relocate existing "HW" BTU Control Panel to location near CH-2. Extend existing 120V power source for each device as necessary.
(j) Reinstall control wiring between pipe sensors (temperature and flow) and BTU Control Panel.
(k) Reinstall CAT5/5E Ethernet cable to BTU Control Panel. BTU Control Panel shall integrate to the existing Delta EMCS via BACnet IP communication. The following points should be made visible in the EMCS for each chiller: CHW Flow; Tonnage; Ton-Hours; CHW Supply Temperature and CHW Return Temperature.
(l) Provide new control cable from Delta Control Panel to each BTU Control Panel for the following hardwired points:
    (i) CH-1 CHW flow (AI)
    (ii) CH-1 Tonnage (AI)
    (iii) CH-2 CHW flow (AI)
    (iv) CH-2 Tonnage (AI)
(m) Provide new instrument tags "CH-1" and "CH-2"

(3) **Flow Meter** – An existing Dynasonic TFXL ultrasonic flow meter is currently installed on the Cogeneration system's high temperature jacket water loop. This flow meter shall be removed and reused for the secondary CHW loop.
(a) Prior to pipe demolition, safely disconnect and safeguard sensor (flow meter) wiring for future use. Remove ultrasonic sensing transducers from pipe and set aside in a safe and secure area for future use.
(b) Reconfigure existing device for new application. Per manufacturer, devices can be reprogrammed to accommodate new operating parameters (e.g. flow ranges) and can be reconfigured for different pipe size.

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(c) Reinstall existing flow meter sensing transducers onto secondary loop CHW pipe in a location with sufficient straight pipe per the manufacturer's instructions (e.g. flow meter location should have 10 pipe diameters upstream / 5 pipe diameters downstream of straight pipe; reference installation manual).
(d) Extend existing control signal wiring and power wiring as necessary.
(e) Reinstall wiring between pipe transducers and flow meter.

(4) Chilled Water System

(a) Install the following equipment:
  (i) Two new (2) differential pressure sensors with manifolds for DP measurement. Install across each of the two (2) new chiller's condenser. These will be used to calculate each chiller's CDW flow.
  (ii) Stainless steel temperature thermowells for temperature sensors as indicated.
  (iii) New Onicon electromagnetic insertion style flow meter and associated installation kit (ball valve and nipple). This flow meter will be connected to the existing EMCS system and data generated from the meter could be stored and accessed electronically.
  (iv) New 2-Way CHW control valves, as identified.
  (v) Two new (2) differential pressure sensors with manifolds for CHW DP measurements in Library and Annex buildings.

(b) Chillers - Provide material, programming and integration to the existing EMCS for the following points: (Note - (E) is existing point; (N) is a new point)
  (i) Chiller CH-1:
    1. Hardwired Points:
      a. (E) Chiller Enable / Disable (BO)
      b. (N) Chiller Run Status (BI)
      c. (E) Chiller Supply Temperature Set Point (AO)
      d. (N) CHW Flowrate (AI) – See Note Below
      e. (E) CHW Supply Sensor (AI) – See Note Below
      f. (N) CHW Return Sensor (AI) – See Note Below
      g. (N) CDW Supply Sensor (AI)
      h. (E) CDW Return Sensor (AI)
      i. (N) Condenser DP sensor (AI)
      j. (E) CHW Isolation Valve (BO)
      k. (E) CDW Isolation Valve (BO)
    2. BACnet Integration Control / Monitoring Points:
      a. Fault/Alarm Status
      b. Chiller Power
      c. % Load
      d. Others – TBD, Identified by Customer
  (ii) Chiller CH-2:
    1. Hardwired Points:
      a. (E) Chiller Enable / Disable (BO)
      b. (N) Chiller Run Status (BI)
      c. (E) Chiller Supply Temperature Set Point (AO)
      d. (N) CHW Flowrate (AI) – See Note Below
      e. (E) CHW Supply Sensor (AI) – See Note Below

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f. (N) CHW Return Sensor (AI) – See Note Below
g. (N) CDW Supply Sensor (AI)
h. (E) CDW Return Sensor (AI)
i. (N) Condenser DP sensor (AI)
j. (E) CHW Isolation Valve (BO)
k. (E) CDW Isolation Valve (BO)

(iii) BACnet Integration Control / Monitoring Points:
1. Fault/Alarm Status
2. Chiller Power
3. % Load
4. Others – TBD, Identified by Customer

(iv) Note: The existing Onicon BTU meter may have optional analog signals available for CHW flow, CHW supply and CHW return temperatures as well as energy (tonnage). If the BTU meter does not have the analog outputs, wire directly to the F-3500 meter using its isolated analog output signal. In addition, provide temperature sensors as indicated.

(5) **Variable Volume CHW Pumps**: Provide material, programming and integration from VFD to the existing EMCS for the following:

(a) One (1) new secondary CHW pump VFD connections to the EMCS with the following points (Serves Library):

(i) Hardwired Points:
1. (E) Pump CP-8 Start / Stop (BO)
2. (E) Pump CP-8 Status. Switch shall be suitable for VFD use and set based on low pump speed - TBD (BI)
3. (N) Pump CP-8 Speed Set Point (AO)

(ii) BACnet Integration Control / Monitoring Points:
1. Power

(iii) Fault

(iv) Communication Failure

(v) Others – TBD, Identified by Customer

(b) One (1) new tertiary CHW pump VFD connections to the EMCS with the following points (Serves Annex, new Booster Pump):

(i) Hardwired Points:
1. (N) Pump CP-X Start / Stop (BO)
2. (N) Pump CP-X Status. Switch shall be suitable for VFD use and set based on low pump speed - TBD (BI)
3. (N) Pump CP-X Speed Set Point (AO)

(ii) BACnet Integration Control / Monitoring Points:
1. Power
2. Fault
3. Communication Failure
4. Others – TBD, Identified by Customer

(c) Two (2) existing primary CHW pump VFD connections to the EMCS with the following points for each (Pumps CP-1 & CP-1A):

(i) Hardwired Points:
1. (N) Pump Start / Stop (BO)

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2. (N) Pump Status by Current Switch. Switch shall be suitable for VFD use and set based on low pump speed - TBD (BI)
3. (E) Pump Speed Set Point (AO)

(d) One (1) existing secondary CHW pump VFD connection to the EMCS with the following points each (Serves Old Courthouse):
  (i) Hardwired Points:
    1. (N) Pump CP-4 Start / Stop (BO)
    2. (E) Pump CP-4 Status (BI)
    3. (E) Pump CP-4 Speed Set Point (AO)

(e) One (1) existing secondary CHW pump VFD connection to the EMCS with the following points each (Serves Old Government Center & Annex):
  (i) Hardwired Points:
    1. (N) Pump CP-12 Start / Stop (BO)
    2. (E) Pump CP-12 Status (BI)
    3. (E) Pump CP-12 Speed Set Point (AO)

(6) **Miscellaneous Control**: In addition to the existing CHW System points that are to remain in place (e.g. CHW building return temperatures, secondary CHWS & CHWR temperatures, CHW primary flow, etc.) provide material, programming and integration to the EMCS for the following new CHW System points:
  (a) Provide one (1) CHW "Bridge" Temperature Sensor (AI)
  (b) Provide one (1) Secondary CHW Flow Meter (AI) – There are currently two (2) secondary CHW loops. One loop serves the new Government Center and the other serves the remaining buildings. The existing Dynasonic TFXL flow meter described above will monitor one CHW loop and a new meter will be required to monitor the second CHW loop. Provide Onicon F3500 Series electromagnetic meter.
  (c) Provide one (1) CHW Bypass Control Valve (AO) – This valve will be sized to provide minimum flow thru one new chiller (estimated 3").
  (d) Refrigerant Monitoring System: Provide one (1) trouble alarm (BI) and one (1) high level alarm (BI).
  (e) Provide new analog output (AO) control points for all new 2-way CHW control valves for buildings served by central plant.
  (f) Provide two (2) new analog input (AI) control points for new CHW differential pressure sensors installed for Library and Annex buildings. Sensors to be terminated to closest Delta Controls controller with the latest firmware version.

(7) Heating Hot Water System
  (a) Install the following equipment:
    (i) Stainless steel temperature thermowells for temperature sensors as indicated.
    (ii) New 2-way HHW control valves.
    (iii) Two (2) new differential pressure sensors with manifolds for HHW DP measurements in Library and Annex buildings.
  (b) Boilers - Provide material, programming and integration to the existing EMCS for the following points:
    (i) Boiler B-1 (Existing):
      1. Hardwired Points:
        a. (E) Boiler Enable / Disable (BO)
        b. (N) Boiler Run Status (BI)

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c. (N) Boiler Alarm (BI)
d. (E) Boiler Supply Temperature Set Point (AO)
e. (E) Boiler Isolation Valve (BO)
f. (N) Boiler Supply Temperature Sensor (AI)

(ii) Boiler B-2 (Existing):
1. Hardwired Points:
a. (E) Boiler Enable / Disable (BO)
b. (N) Boiler Run Status (BI)
c. (N) Boiler Alarm (BI)
d. (E) Boiler Isolation Valve (BO)
e. (N) Boiler Supply Temperature Sensor (AI)

(c) Constant Volume HHW Pumps (Existing):
(i) (E) HHW CP-5 Enable / Disable (BO)
(ii) (N) HHW CP-5 Run Status (BI)
(iii) (E) HHW CP-6 Enable / Disable (BO)
(iv) (N) HHW CP-6 Run Status (BI)

(d) Variable Volume HHW Pumps: Provide material, programming and integration from VFD to the existing EMCS for the following HHW Distribution Pumps:
(i) One (1) new secondary HHW pump VFD connections to the EMCS with the following points (Serves Library):
1. Hardwired Points:
a. (E) CP-7 Pump Start / Stop (BO)
b. (E) CP-7 Pump Status. Switch shall be suitable for VFD use and set based on low pump speed - TBD (BI)
c. (N) CP-7 Speed Set Point (AO)
2. BACnet Integration Control / Monitoring Points:
a. Power
b. Fault
c. Communication Failure
d. Others – TBD, Identified by Customer

(ii) One (1) new tertiary HHW pump VFD connection to the EMCS with the following points each (Serves Annex, new Booster Pump):
1. Hardwired Points:
a. (N) CP-X Pump Start / Stop (BO)
b. (N) CP-X Pump Status. Switch shall be suitable for VFD use and set based on low pump speed - TBD (BI)
c. (N) CP-X Speed Set Point (AO)
2. BACnet Integration Control / Monitoring Points:
a. Power
b. Fault
c. Communication Failure
d. Others – TBD, Identified by Customer

(iii) One (1) existing secondary HHW pump VFD connection to the EMCS with the following points each (Serves Old Courthouse):
1. Hardwired Points:
a. (N) CP-3 Pump Start / Stop (BO)

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b. (N) CP-3 Pump Status (BI)
c. (E) CP-3 Speed Set Point (AO)

(iv) One (1) existing secondary HHW pump VFD connection to the EMCS with the following points each (Serves Old Government Center & Annex):
1. Hardwired Points:
a. (N) CP-11 Pump Start / Stop (BO)
b. (E) CP-11 Pump Status (BI)
2. (E) CP-11 Speed Set Point (AO)

(v) Miscellaneous Control: In addition to the existing HHW System points that are to remain in place (e.g. HHW building return temperatures, Common HHWS temperature, HHW primary flow status, etc.) provide material, programming and integration to the EMCS for the following new HHW System points:
1. Provide one (1) Common HHW Return Temperature Sensor (AI)
2. Provide new analog output (AO) control points for all new 2-way HHW control valves for buildings served by central plant.
3. Provide two (2) new analog input (AI) control points for new CHW differential pressure sensors installed for Library and Annex buildings. Sensors to be terminated to closest Delta Controls controller with latest firmware version.

(8) Condenser Water System

(a) Install the following equipment:
(i) Stainless steel temperature thermowells for temperature sensors as indicated.

(b) Miscellaneous Control: In addition to the existing condenser water (CDW) system points that are to remain in place (e.g., common CDW supply temperature, HX CDW outlet temperature, cooling tower isolation valves, etc.) provide material, programming and integration to the EMCS for the following new CDW System points:

(c) Provide one (1) new Common CDW Return Temperature Sensor (AI)

(9) **Variable Volume CDW Pumps**: Provide material and programming from two (2) existing VFD(s) to the EMCS for each CDW Pump (CP-2 & CP-2A):
(a) Hardwired Points:
(i) (N) Pump Start / Stop (BO)
(ii) (N) Pump Status by Current Switch. Switch shall be suitable for VFD use and set based on low pump speed - TBD (BI)
(iii) (E) Pump Speed Set Point (AO)

(10) **Cooling Tower Fans**: Provide material and programming from two (2) existing VFD(s) to the EMCS for each Cooling Tower (CT-1 & CT-2):
(a) Hardwired Points:
(i) (N) Fan Start / Stop (BO)
(ii) (N) Fan Status by Current Switch. Switch shall be suitable for VFD use and set based on low pump speed - TBD (BI)
(iii) (E) Fan Speed Set Point (AO)

(11) **Network**: Install new BACnet MS/TP (RS485) network cable between new VFD controllers, new chillers, and the main EMCS controller.

ii) ECM-7 Chiller Replacement – Health Center:

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(1) Mechanical Scope

(a) Install two (2) Turbocor 100 Ton (nominal, or equal) magnetic bearing, R134A, centrifugal chillers with new concrete pads

(b) Disconnect piping at chillers/heaters and remove chillers/heaters, the two air cooled chillers and corresponding pumps.

(c) Install two new 150 GPM, 30 ft HD (estimated), 2 HP, super premium efficient, B&G 1531, close coupled, end suction, chilled water pumps
  (i) Install new pump suction and discharge piping, as needed, connect to existing 6" diameter header and include taps and valves for future back-up pump,
  (ii) Install new strainer and isolation valves,
  (iii) Connect power to existing "disconnect" after verification that "disconnect" and existing cables/breaker are sufficient, otherwise replace, as necessary.

(d) Install two new 205 GPM, 50' HD (estimated), 5 HP, super premium efficient, inverter rated, B&G 1531, close coupled, end suction, condenser water pump,
  (i) Install new pump suction and discharge piping, as required, connect to existing 6" diameter header and include taps and valves for future back-up pump,
  (ii) Install new strainer and isolation valves,
  (iii) Connect power to existing VFD and "disconnect" after verification that VFD, "disconnect" and existing cables/breaker are sufficient, otherwise replace, as necessary.

(e) Modify existing chilled water supply and return piping and install new piping where neccessary to accommodate new chillers and connect to existing 6" diameter supply and return header on the primary side of the decoupler with new butterfly valves at the evaporator (valve at evaporator discharge to be automatic modulating type to allow flow adjustment and/or shut off when not in use), new piping will match existing, predominately Victaulic connections unless Welded Black Iron is existing.

(f) Modify existing condenser water supply and return piping and install new piping where neccessary to accommodate the new chillers and connect to existing 6" diameter supply and return header with new butterfly valves (valve at condenser inlet to be automatic type to allow shut off when not in use), new piping will match existing, predominately Victaulic connections unless Welded Black Iron is existing.

(g) Replace existing chiller breakers with new larger breakers at existing panel and route power to new chillers.

(h) Provide new conduit and wire, as necessary.

(i) This project will include new control devices and programming to provide for fully functional CHW, condenser water and HHW systems that operate automatically in a very efficient manner, utilizing the existing Delta Controls EMCS. Refer to the detailed controls scope.

(j) Provide all new control devices including controllers, sensors, transducers, and switches that are necessary to meet the requirements of the new optimization sequences. Existing control devices that are in good working order will be reused.

(k) Install new conduit and low voltage wiring including sensor wiring, equipment control panel wiring, RS485 network wiring and CAT5/5E Ethernet cable as needed to meet the project requirements. Elements of this scope include the following:
  (i) During demolition phase – peel back and safeguard existing sensor wiring that will be re-used for equipment that will be replaced (e.g. chillers)

_____ _____ initials

(ii) Rewire control cables as needed to existing control devices and equipment.

(l) Install new conduit (as necessary) and wire to new control devices.

(2) Controls Scope

(a) Demolition

(i) Remove all control points and associated programming from the existing Delta Controls EMCS for equipment that will be removed from the Central Plant and will no longer exist. To help ensure reliability and stability of the remaining EMCS, all points and programming associated with equipment being eliminated must be removed from the database.

(ii) Remove obsolete control cabling from control panel terminations. Where appropriate, fully remove obsolete or disconnected control cabling from EMCS controllers, enclosures and conduit.

(b) Chilled Water System

(i) Install the following equipment:

1. Two (2) new differential pressure sensors with manifolds for DP measurement. Install across each of the two (2) new chiller's condenser. These will be used to calculate each chiller's CDW flow.
2. Two (2) new in-line electromagnetic flow meters – Siemens SITRANS F M MAGFLO 5100W Series with remote display or equal. Install to monitor flow in each new chiller's evaporator.
3. Stainless steel temperature thermowells for temperature sensors as indicated.
4. New Onicon electromagnetic insertion style flow meter and associated installation kit (ball valve and nipple).

(c) Chillers - Provide material, programming and integration to the existing EMCS for the following points: (Note - (E) is existing point; (N) is a new point)

(i) Chiller CH-1:

1. Hardwired Points:
   a. (E) Chiller Enable / Disable (BO)
   b. (N) Chiller Run Status (BI)
   c. (N) Chiller Supply Temperature Set Point (AO)
   d. (N) CHW Flowrate (AI)
   e. (E) CHW Leaving Sensor (AI)
   f. (N) CHW Entering Sensor (AI)
   g. (E) CDW Leaving Sensor (AI)
   h. (E) CDW Entering Sensor (AI)
   i. (N) Condenser DP sensor (AI)
   j. (N) CHW Isolation Valve (BO)
      i. (N) CDW Isolation Valve (BO)
2. BACnet Integration Control / Monitoring Points:
   a. Fault/Alarm Status
   b. Chiller Power
   c. % Load
   d. Others – TBD, Identified by Customer

(ii) Chiller CH-2:

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1. Hardwired Points:
   a. (E) Chiller Enable / Disable (BO)
   b. (N) Chiller Run Status (BI)
   c. (N) Chiller Supply Temperature Set Point (AO)
   d. (N) CHW Flowrate (AI)
   e. (E) CHW Leaving Sensor (AI)
   f. (N) CHW Entering Sensor (AI)
   g. (E) CDW Leaving Sensor (AI)
   h. (E) CDW Entering Sensor (AI)
   i. (N) Condenser DP sensor (AI)
   j. (N) CHW Isolation Valve (BO)

(iii) (N) CDW Isolation Valve (BO)

(d) BACnet Integration Control / Monitoring Points:
   (i) Fault/Alarm Status
   (ii) Chiller Power
   (iii) % Load
   (iv) Others – TBD, Identified by Customer

(e) Variable Volume CHW Pumps: Provide material, programming and integration from VFD to the existing EMCS for the following:
   (i) Two (2) new primary CHW pump VFD(s) connections to the EMCS with the following points:
   (ii) Hardwired Points:
      a. (E) Pump CP-8 Start / Stop (BO)
      b. (E) Pump CP-8 Status. Switch shall be suitable for VFD use and set based on low pump speed - TBD (BI)
      c. (N) Pump CP-8 Speed Set Point (AO)
   (iii) BACnet Integration Control / Monitoring Points:
      a. Power
      b. Fault
      c. Communication Failure
      d. Others – TBD, Identified by Customer

(f) Miscellaneous Control: In addition to the existing CHW System points that are to remain in place (e.g. CHW building return temperature, secondary CHWS & CHWR temperatures, etc.) provide material, programming and integration to the EMCS for the following new CHW System points:
   (i) Provide one (1) CHW Decoupler Temperature Sensor (AI)
   (ii) Provide one (1) Secondary CHW Flow Meter (AI)
   (iii) Refrigerant Monitoring System: Provide one (1) trouble alarm (BI) and one (1) high level alarm (BI).

(3) Heating Hot Water System: No new control points.

(4) Condenser Water System: No new control points.

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iii) ECM 8 Underfloor Air Distribution Upgrades – New Government Center:

(1) Install new ½ HP Dayton model 3M714 fan motors to replace existing motor functioning within 65 of the 91 VAV boxes serving zones related to AHU-02 and AHU-03.

(2) Install 65 new controllers, one for each box, to monitor actual box airflow and commission new controller / airflow reading.

(3) Add control points to the Delta controls so trends can be set up to record large AHU supply air temperature, delivery temperature, airflows and room space temperatures

(4) AHU-02 and AHU-03 systems shall be commissioned and air balanced to ensure proper operation.

iv) ECM 19 Kitchen Hood Controls - Honor Farm:

(1) Install the Intelli-Hood system to interface with the existing kitchen exhaust hood systems for the large kitchen hood system serving kettles and the smaller kitchen hood system located along the outside wall. System includes,

(a) System Controller Assembly
(b) Assembly, Touchpad
(c) User Interface Mounting Kit, Surface
(d) Sensor Assemblies and cables
(e) Exh Fan with VFD, 2HP, Qty 2
(f) Exh Fan with VFD, 5HP, Qty 2
(g) Make up air unit with VFD, 3 HP, Qty 3
(h) Relay, RIB, 120VAC/24VDC, 10A, Multitap, Functional Devices, Inc. RIB (Relay In Box) - SPDT 10A, 120VAC/10-30VDC, Multitap Voltage Coil – Qty 2

(2) Additional Melink Services Provided:

(a) Intelli-hood pre-install site co-ordination: Perform installation of demand ventilation controls for kitchen. Includes installation of the Intelli-Hood components. Intelli-Hood component work shall be completed by Melink Corporation authorized personnel.

(b) Work associated with installation of each of two (2) systems shall include but is not necessarily limited to:

1. Install temperature sensor(s) in hood
2. Install optic sensors and air purge units
3. Install hood control units
4. Install low voltage cables between the sensors and the processor(s)

(c) Intelli-hood startup: Perform startup of demand ventilation controls for kitchen. Startup will be completed by a Melink Corporation authorized technician to complete the final connections, final programming, commissioning and Customer training. Customer training is included at the time of startup with the owner / owner's representative / contractor available onsite. If a separate visit is requested for training a separate change order will be necessary for the specified training duration.

v) ECM 20a Personal Computer Energy Management System - Department of General Services:

_____ _____ initials

1) Provide pre-installation CPU baseline electrical use data and/or reports as necessary to support PG&E incentive application requirements.
2) Work with County IT staff to support the installation of Microsoft System Center Configuration Manager (SCCM) software on the County's network to provide energy management opportunities on 160 CPUs for the Department of General Services, utilizing existing licenses already purchased by the County. For machines with SCCM already installed, the power management feature will be enabled.
3) Provide post-installation CPU baseline electrical use data and/or reports as necessary to support PG&E incentive application requirements.
4) Scope of work, costs, and savings can be expanded proportionally via a change order to deploy Microsoft SCCM to additional CPUs if other County Departments choose to do so.

i) ECM 20b Personal Computer Energy Management System – Planning

1) Provide pre-installation CPU baseline electrical use data and/or reports as necessary to support PG&E incentive application requirements.
2) Work with County IT staff to support the installation of Microsoft System Center Configuration Manager (SCCM) software on the County's network to provide energy management opportunities on 212 CPUs for the Planning department, utilizing existing licenses already purchased by the County. For machines with SCCM already installed, the power management feature will be enabled.
3) Provide post-installation CPU baseline electrical use data and/or reports as necessary to support PG&E incentive application requirements.
4) Scope of work, costs, and savings can be expanded proportionally via a change order to deploy Microsoft SCCM to additional CPUs if other County Departments choose to do so.

i) ECM 21a Energy Management Control System Expansion – Various County Buildings:

(1) Provide and install new Delta Controls building control panel or network controls gateway in a location to be coordinated with the County.
(2) Coordinate with County IT staff on installation of Ethernet run from new building control panels or gateways to County owned Ethernet switch or hub.
  (a) County IT staff to identify port number for termination of Ethernet cable and assigned IP address for building control panel.
  (b) One IP address is required per building.
(3) Install new 120V circuit for building control panel.
(4) Provide new network thermostat with integrated occupancy sensor for each HVAC system as identified,
  (a) North County
    (i) Public Health (Paso Robles), 4-HVAC Packaged Systems
    (ii) Ag Commissioner (Templeton), 3-HVAC Packaged Systems
    (iii) Sheriff (Templeton), 4-HVAC Split Systems

_____ _____ initials

(iv) Drug and Alcohol Services (Atascadero), 4-HVAC Split Systems
(v) Atascadero Hospital Site, Public Health, Mental Health, 6-HVAC Split Systems, 2-Roof HVAC Systems

(b) South County
(i) Nipomo Library, 4-HVAC Packaged Systems
(ii) Ag Commissioner (Arroyo Grande) , 4-HVAC Packaged Systems
(iii) Health Center (Grover Beach), 1–HVAC Split System
(iv) Drug & Alcohol Services (Grover Beach), 4-HVAC split systems

(c) Operations Center
(i) Detectives Building, 5–HVAC Split Systems
(ii) Main Female Jail, 11–HVAC Systems, 1–DX Cooling Fan Coil
(iii) Juvenile Hall, 4–HVAC Split Systems, 1–HVAC System, 1–DX Cooling Only Fan Coil, 3–Reznor Heaters
(iv) Animal Services, 1–HVAC System
(v) General Services Downtown, 5–HVAC Systems,
(vi) Kimball Building, 6–HVAC Systems,
(vii) Grand Jury, 1–HVAC Split System
(viii) Ag Commissioner / Health Agency, 12–HVAC Roof Packaged Systems,
(ix) Sheriff Sub Station (Los Osos), 1–HVAC Roof Packaged System
(x) Arroyo Grande Library, 6–HVAC Roof Packaged Systems

(5) Programming as required to configure schedules, unoccupied temperature settings, override setting.
(6) EMCS graphic representation of building with floor plan layout of areas served and key EMCS point data.
(7) Training for Facilities Maintenance staff after installation.

_____ _____ initials

ASSUMPTIONS, CLARIFICATION & EXCLUSIONS

(Please note that in addition to the items below additional ECM-specific Exclusions and Assumptions/Clarifications are located in the specific ECM Descriptions.)

Exclusions:

1. ADA code upgrades, modifications and compliancy has been excluded. None are expected.
2. Fire sprinkler and fire alarm Tele data, Security, Paging and AV modifications/improvements are excluded.
3. Upgrades to existing stand-alone, battery-powered lighting fixtures such as battery-powered emergency fixtures.
4. Modification, repair, replacement or adjustment of existing occupancy sensors.
5. Relocation of existing lighting fixtures unless specifically included in the scope of work.
6. Repair or replacement of existing lighting system components such as wiring, switches, controls, raceways, circuit breakers, lamps, ballasts, lenses and reflectors unless specifically included in the scope of work.
7. Costs associated with certification of ECM compliance with building codes and standards.
8. Hazardous materials encountered during the implementation phase will remain the Customer's property and responsibility. Except as specifically noted in this Scope of Work, Customer is responsible for removing and disposing of any encountered hazardous materials. Contractor does not anticipate encountering hazardous materials, except asbestos piping insulation on CHW and HHW piping that are associated with the mechanical work on the central pant upgrades and variable flow ECMs. Exhibit D, attached hereto and incorporated herein, summarizes Contractor's understanding of the existing hazardous materials reports provided by Customer, and the associated hazardous material scopes of work that will be undertaken by Contractor.

Assumptions / Clarifications:

1. Overtime labor is only included for lighting and mechanical work that must be performed during second shift to avoid interference with Customer's schedule or operations.
2. We have assumed an 18 month pre-construction and construction period for the ECM's identified in this contract.
3. Relocation of computers, cubicles, printers, servers and other sensitive equipment located within the areas of work are assumed to be responsibility of Customer. We will provide protection for furniture and flooring as required.
4. All warranties will be one year from the date of substantial completion of the specific ECM unless noted otherwise. Warranty for the chillers at the Downtown Plant and Health Center Plant will be three years. We currently do not have service and maintenance costs for new or existing equipment included in this proposal and understand that these items will be handled directly by Customer.
5. All retrofit work includes new equipment and materials; however we have not included costs for repairing any existing infrastructure or equipment that will support the proposed new equipment or fixtures. We assume that Customer will make these repairs.
6. Contractor will be responsible for repair, replacement or restoration of any adjacent finishes or conditions affected by the work.

_____ _____ initials

7. If, after the date of this Agreement, there is any change in laws, ordinances, licenses, permits, codes, agreements, rules or regulations which increase or decrease the services to be provided, or cost or expenses incurred by Contractor in performing the services under this Agreement, then Contractor's compensation otherwise payable under this Agreement shall be increased or decreased accordingly by mutual agreement between the Parties hereto.
8. With the exception of work listed in Assumption/Clarification Item 1 (above), all work can be performed on non-holiday weekdays between 7:00AM and 4:00PM.
9. Lamp and ballast replacement work can be performed while the electrical circuit is energized.
10. In the event that the progress of work is delayed at any time during the performance of its Services under this Contract due to causes reasonably unforeseeable and outside of our control or in the event of Force Majeure, the schedule and compensation shall be equitably adjusted by mutual agreement which shall be set forth in a written amendment to this Contract. Force Majeure shall include, but not be limited to: fire, flood, earthquake, typhoon, unusually adverse weather conditions, Acts of God, war or other hostile action (whether declared or not), action by or regulations and orders of any governmental agency, governmental priorities, disease, quarantine, labor disputes or strikes causing a slow-down or cessation of the Services, riot, acts of terrorism by any source, explosion, acts of aggression, or acts of a public enemy. Contractor shall notify the Client within thirty (30) days after the occurrence of any instance of Force Majeure which may affect performance of Services. Upon completion of said Force Majeure, Contractor shall provide the Client with a written estimate of the schedule extension and any increase in costs required to compensate for the occurrence of said Force Majeure.
11. Changes to the IGA ECM scopes of work either initiated by Customer or Contractor will be documented in writing and through the final accepted design process. Equitable compensation shall be equitably adjusted by mutual agreement which shall be set forth in a written amendment to this Contract prior to commencing change of work.
12. Contractor will develop a final design that fulfills the functional objectives of the project while addressing both a) known conditions at the Sites, and b) circumstances/conditions that become discoverable only during the final design process. Contractor will make reasonable adjustments to the Scope of Work when developing the final design and during the construction process. As-built drawings of the work will be included in close-out documentation.

_____ _____ initials

Appendix A
Lighting Schedules by Building

1A - COURTHOUSE ANNEX

Item #	Existing Lighting System			Proposed Retrofit		
	Description of Existing	Existing Quantity	Existing Watts	Description of Proposed	Proposed Quantity	Proposed Watts
1	4' Fluorescent fixture with (2) F32T8 lamps	400	60	Re-lamp with (2) 12w T8 LED tubes	400	28
2	4' Fluorescent fixture with (3) F32T8 lamps	180	88	Re-lamp with (3) 12w T8 LED tubes	180	42
3	4' Fluorescent fixture with (4) F32T8 lamps	6	112	Re-lamp with (4) 12w T8 LED tubes	6	56
4	Can downlight with (1) 26w CFL plug-in lamps	4	28	Re-lamp with (1) 11w PL lamp from Green Creative	4	11
5	26w screw-in CFL	10	26	Re-lamp with (1) 8w LED screw-in lamp	10	8
6	Can downlight with (2) 13w CFL plug in lamps	5	30	Re-lamp with (1) 11w PL lamp from Green Creative	5	11
7	Can downlight with (1) 13w CFL screw-in lamps	24	13	Re-lamp with (1) 8w LED screw-in lamp	24	8
8	2'X2' Fluorescent fixture with (2) F32T8-Ubend lamp	9	60	Re-lamp with (2) 16w T8-Ubend LED tubes	9	40
9	175w Mercury Vapor spot light	6	205	Re-lamp with (1) 19w LED PAR38 screw-in lamp	6	19
10	70w High Pressure Sodium bollard	9	90	Re-lamp with new 17w A21 LED lamp	9	17
11	70w Incandescent screw-in lamp	3	70	Re-lamp with (1) 8w LED screw-in lamp	3	8
12	75w Incandescent screw-in lamp	3	75	Re-lamp with (1) 8w LED screw-in lamp	3	8
13	75w Mercury Vapor spot light	9	95	Re-lamp with (1) 26w LED PAR38 screw-in lamp from GE	9	26
14	175w Mercury Vapor recessed light	3	205	Re-lamp with (1) 25w LED directional screw-in lamp	3	19
15	175w Mercury Vapor wallpack	1	205	New 63w Wallpack.H LED fixture	1	63
16	60w Incandescent screw-in lamp	4	60	Re-lamp with (1) 8w LED screw-in lamp	4	8
17	Fluorescent fixture with (4) 40w BIAX lamps	8	144	Re-lamp with (4) 20w BIAX LED lamps	8	80
		684			684	

_____ _____ initials

1B – OLD GOVERNMENT CENTER

Item #	Existing Lighting System			Proposed Retrofit		
	Description of Existing	Existing Quantity	Existing Watts	Description of Proposed	Proposed Quantity	Proposed Watts
1	4' Fluorescent fixture with (2) F32T8 lamps	628	60	Re-lamp with (2) 12w T8 LED tubes	628	28
2	4' Fluorescent fixture with (3) F32T8 lamps	4	88	Re-lamp with (3) 12w T8 LED tubes	4	42
3	4' Fluorescent fixture with (4) F32T8 lamps	17	112	Re-lamp with (4) 12w T8 LED tubes	17	56
4	13w screw-in CFL	2	13	Re-lamp with (1) 8w LED screw-in lamp	2	8
5	26w screw-in CFL	6	26	Re-lamp with (1) 8w LED screw-in lamp	6	8
6	Can downlight with (2) 13w CFL plug in lamps	4	30	Re-lamp with (1) 11w PL lamp from Green Creative	4	11
7	Can downlight with (2) 26w CFL plug-in lamps	72	54	Re-lamp with (2) 11w PL lamp from Green Creative	72	22
8	4' Fluorescent fixture with (1) F32T8 lamps	136	30	Re-lamp with (1) 12w T8 LED tubes	136	14
9	23w screw-in CFL	2	23	Re-lamp with (1) 8w LED screw-in lamp	2	8
10	2' Fluorescent fixture with (1) F17T8 lamps	6	17	Re-lamp with (1) 12w T8 LED tubes	6	12
11	2' Fluorescent fixture with (2) F17T8 lamps	2	37	Re-lamp with (2) 12w T8 LED tubes	2	28
12	2'X2' Fluorescent fixture with (2) F32T8-Ubend lamp	7	60	Re-lamp with (2) 16w T8-Ubend LED tubes	7	40
13	4' Fluorescent fixture with (1) F40T12 lamps	1	40	Re-lamp with (1) 12w T8 LED tubes	1	14
14	175w Mercury Vapor spot light	5	205	Re-lamp with (1) 19w LED PAR38 screw-in lamp	5	19
15	100-watt Incandescent lamp in downlight	42	100	Re-lamp with new 17w A21 LED lamp	42	17
16	175w Mercury Vapor up lighting fixture	22	205	Install 21w LED retrofit kit	22	21
17	175w Mercury Vapor spot light	8	205	Re-lamp with (1) 26w LED PAR38 screw-in lamp from GE	8	26
18	250w Mercury Vapor spot light	12	290	Re-lamp with (1) 26w LED PAR38 screw-in lamp from GE	12	26
19	400w Mercury Vapor wall pack	1	455	New 108w Wallpack.Y LED fixture	1	108
20	4' Fluorescent fixture with (2) F40T12 lamps	1	70	Retrofit with (2) 12wT8 LED tubes and electronic ballast	1	28
		978			978	

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1C – OLD COURTHOUSE

Item #	Existing Lighting System			Proposed Retrofit		
	Description of Existing	Existing Quantity	Existing Watts	Description of Proposed	Proposed Quantity	Proposed Watts
1	4' Fluorescent fixture with (2) F32T8 lamps	562	60	Re-lamp with (2) 12w T8 LED tubes	562	28
2	4' Fluorescent fixture with (3) F32T8 lamps	308	88	Re-lamp with (3) 12w T8 LED tubes	308	42
3	4' Fluorescent fixture with (4) F32T8 lamps	94	112	Re-lamp with (4) 12w T8 LED tubes	94	56
4	26w screw-in CFL	38	26	Re-lamp with (1) 8w LED screw-in lamp	38	8
5	60w Incandescent screw-in lamp	3	60	Re-lamp with (1) 8w LED screw-in lamp	3	8
6	Can downlight with (2) 13w CFL plug in lamps	9	30	Re-lamp with (1) 11w PL lamp from Green Creative	9	11
7	4' Fluorescent fixture with (1) F32T8 lamps	2	30	Re-lamp with (1) 12w T8 LED tubes	2	14
8	2'X2' Fluorescent fixture with (2) F32T8-Ubend lamp	2	60	Re-lamp with (2) 16w T8-Ubend LED tubes	2	40
9	Can downlight with (1) 13w CFL plug in lamps	8	15	Re-lamp with (1) 11w PL lamp from Green Creative	8	11
10	70w High Pressure Sodium spot light	1	90	Re-lamp with (1) 19w LED PAR38 screw-in lamp	1	19
11	70w Incandescent screw-in lamp	1	70	Re-lamp with (1) 8w LED screw-in lamp	1	8
12	75w Incandescent screw-in lamp	1	75	Re-lamp with (1) 8w LED screw-in lamp	1	8
13	50w halogen lamp	4	50	Re-lamp with (1) 8w LED PAR20 screw-in lamp	4	8
14	2' Fluorescent fixture with (4) F20T12 lamps	1	112	Retrofit with (4) 12w F17 LED tubes and electronic ballast	1	62
		1034			1034	

1D – NEW GOVERNMENT CENTER (BOARD CHAMBER)

Item #	Existing Lighting System			Proposed Retrofit		
	Description of Existing	Existing Quantity	Existing Watts	Description of Proposed	Proposed Quantity	Proposed Watts
1	4' Fluorescent fixture with (2) F32T8 lamps	6	60	Re-lamp with (2) 12w T8 LED tubes	6	28
3	26w screw-in CFL	38	26	Re-lamp with (1) 8w LED screw-in lamp	38	8
4	Can downlight with (2) 26w CFL plug-in lamps	26	54	Re-lamp with (2) 11w PL lamp from Green Creative	26	22
10	50w Halogen MR16 lamp	38	50	Re-lamp with new 7w MR16 LED lamp	38	7

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1F – MAIN JAIL

Item #	Existing Lighting System			Proposed Retrofit		
	Description of Existing	Existing Quantity	Existing Watts	Description of Proposed	Proposed Quantity	Proposed Watts
1	4' Fluorescent fixture with (2) F32T8 lamps	1025	60	Re-lamp with (2) 12w T8 LED tubes	1025	28
2	4' Fluorescent fixture with (3) F32T8 lamps	13	88	Re-lamp with (3) 12w T8 LED tubes	13	42
3	4' Fluorescent fixture with (4) F32T8 lamps	87	112	Re-lamp with (4) 12w T8 LED tubes	87	56
4	Can downlight with (1) 26w CFL plug-in lamps	20	28	Re-lamp with (1) 11w PL lamp from Green Creative	20	9.4
5	Can downlight with (2) 13w CFL plug-in lamps	16	30	Re-lamp with (1) 11w PL lamp from Green Creative	16	9.4
6	Can downlight with (2) 26w CFL plug-in lamps	1	54	Re-lamp with (2) 11w PL lamp from Green Creative	1	22
7	4' Fluorescent fixture with (1) F32T8 lamps	18	30	Re-lamp with (1) 12w T8 LED tubes	18	14
8	Night light with (1) 7w CFL plug-in lamp	22	7	Re-lamp with (1) 11w PL lamp from Green Creative	22	9.4
9	Downlight with (13) 13w CFL plug-in lamp	22	15	Re-lamp with (1) 11w PL lamp from Green Creative	22	9.4
10	23w screw-in CFL	2	23	Re-lamp with (1) 19w LED PAR38 screw-in lamp	2	19
11	150w High Pressure Sodium wall pack	14	190	New 36w Wallpack.X from	14	36
12	150w Incandescent lamp	3	150	Re-lamp with (1) 19w LED PAR38 screw-in lamp	3	19
13	70w Metal Halide wall pack	2	95	New 36w Wallpack.X from	2	36
14	150w Metal Halide canopy fixture	4	190	New 42w Canopy.S LED fixture	4	42
15	175w Metal Halide flood light fixture	4	205	New 63w Floodlight.L LED fixture	4	63
16	Can downlight with (2) 13w CFL plug in lamps	2	30	Re-lamp with (1) 11w PL lamp from Green Creative	2	11
17	8' fluorescent fixture with (2) F96T12HO lamps	16	237	Re-lamp with (2) 42w 8' T8 LED tube	16	84
		1271			1271	

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1H – HONOR FARM

Item #	Existing Lighting System			Proposed Retrofit		
	Description of Existing	Existing Quantity	Existing Watts	Description of Proposed	Proposed Quantity	Proposed Watts
1	4' Fluorescent fixture with (2) F32T8 lamps	234	60	Re-lamp with (2) 12w T8 LED tubes	234	28
2	Can downlight with (2) 13w CFL plug in lamps	5	30	Re-lamp with (1) 11w PL lamp from Green Creative	5	11
3	4' Fluorescent fixture with (1) F32T8 lamps	81	30	Re-lamp with (1) 12w T8 LED tubes	81	14
4	Can downlight with (1) 13w CFL plug in lamps	1	15	Re-lamp with (1) 11w PL lamp from Green Creative	1	11
5	23w screw-in CFL	8	23	Re-lamp with (1) 14w LED PAR30 screw-in lamp	8	14
6	Exterior wall fixture with (1) 32w CFL plug in lamp	4	34	Re-lamp with (1) 11w PL lamp from Green Creative	4	11
7	100w Incandescent screw-in lamp	1	100	Re-lamp with (1) 8w LED screw-in lamp	1	8
8	250w Metal Halide highbay fixture	8	295	New 126w Lowbay.4 from Noribachi	8	126
9	4' Fluorescent fixture with (2) F40T12 lamps	5	70	Retrofit with (2) 12wT8 LED tubes and electronic ballast	5	28
		347			347	

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1I – HEALTH CAMPUS

Item #	Existing Lighting System			Proposed Retrofit		
	Description of Existing	Existing Quantity	Existing Watts	Description of Proposed	Proposed Quantity	Proposed Watts
1	4' Fluorescent fixture with (2) F32T8 lamps	277	60	Re-lamp with (2) 12w T8 LED tubes	277	28
2	4' Fluorescent fixture with (3) F32T8 lamps	381	88	Re-lamp with (3) 12w T8 LED tubes	381	42
3	13w screw-in CFL	2	13	Re-lamp with (1) 8w LED screw-in lamp	2	8
4	26w screw-in CFL	17	26	Re-lamp with (1) 8w LED screw-in lamp	17	8
5	Can downlight with (1) 26w CFL plug-in lamps	11	28	Re-lamp with (1) 11w PL lamp from Green Creative	11	11
6	60w Incandescent screw-in lamp	1	60	Re-lamp with (1) 8w LED screw-in lamp	1	8
7	Can downlight with (2) 13w CFL plug in lamps	7	30	Re-lamp with (1) 11w PL lamp from Green Creative	7	11
8	23w screw-in CFL	7	23	Re-lamp with (1) 8w LED screw-in lamp	7	8
9	4' Fluorescent fixture with (1) F32T8 lamps	35	30	Re-lamp with (1) 12w T8 LED tubes	35	14
10	2'X2' Fluorescent fixture with (2) F32T8-Ubend lamp	36	60	Re-lamp with (2) 16w T8-Ubend LED tubes	36	40
11	2' Fluorescent fixture with (3) F17T8 lamps	2	53	Re-lamp with (2) 12w T8 LED tubes	2	28
12	50w halogen lamp	1	50	Re-lamp with (1) 8w LED PAR20 screw-in lamp	1	8
13	70w High Pressure Sodium	21	90	New 32w Wallpack.S from	21	32
14	70w High Pressure Sodium	1	90	New 63w Floodlight.L LED fixture	1	63
15	400w High Pressure Sodium Flood light	1	460	New 126w Floodlight.L LED fixture with trunion mount	1	126
16	150w Halogen flood light	3	150	New 32w Floodlight.S LED fixture	3	63
17	4' Fluorescent fixture with (2) F40T12 lamps	2	70	Retrofit with (2) 12wT8 LED tubes and electronic ballast	2	28
18	8' fluorescent fixture with (2) F96T12HO lamps	15	237	Re-lamp with (2) 42w 8' T8 LED tube	15	84
		820			820	

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1J – HEALTH LAB

Item #	Existing Lighting System			Proposed Retrofit		
	Description of Existing	Existing Quantity	Existing Watts	Description of Proposed	Proposed Quantity	Proposed Watts
1	4' Fluorescent fixture with (2) F32T8 lamps	79	60	Re-lamp with (2) 12w T8 LED tubes	79	28
2	26w screw-in CFL	7	26	Re-lamp with (1) 8w LED screw-in lamp	7	8
3	60w Incandescent screw-in lamp	1	60	Re-lamp with (1) 8w LED screw-in lamp	1	8
4	2' Fluorescent fixture with (2) F17T8 lamps	7	37	Re-lamp with (2) 12w T8 LED tubes	7	24
5	100w Incandescent A lamp	5	100	Re-lamp with new 17w A21 LED lamp	5	17
6	70w Metal Halide wallpack	1	95	New 32w Wallpack.s from Noribachi	1	32
7	23w screw-in CFL	4	23	Re-lamp with (1) 8w LED screw-in lamp	4	8
8	4' Fluorescent fixture with (2) F40T12 lamps	1	70	Retrofit with (2) 12wT8 LED tubes and electronic ballast	1	28
9	4' Fluorescent fixture with (4) F32T8 lamps	7	112	Re-lamp with (4) 12w T8 LED tubes	7	56
		112			112	

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Pacific Gas and Electric Company

EXHIBIT B
SCHEDULE OF VALUES

PG&E SCHEDULE OF VALUES

Line	Task	Value
1	Mobilization (5%)	$226,358
2	Project and Construction Management	$588,531
3	Design	$316,901
4	Installation	
5	ECM 1a Annex Lighting Upgrades	$85,489
6	ECM 1b Old Government Center Lighting Upgrades	$117,436
7	ECM 1c Old Courthouse Lighting Upgrades	$130,865
8	ECM 1d New Government Center (Board Chamber) Lighting Upgrades	$11,590
9	ECM 1f Main Jail Lighting Upgrades	$165,605
10	ECM 1h Honor Farm Lighting Upgrades	$43,770
11	ECM 1i Health Campus Lighting Upgrades	$116,969
12	ECM 1j Health Lab Lighting Upgrades	$12,488
13	ECM 6 Government Center Complex Central Plant Upgrades	$1,201,588
14	ECM 2 & 3 Government Center Complex Variable Flow CHW & HHW	$313,155
15	ECM 7 Health Campus Central Plant Upgrades	$478,034
16	ECM 8 New Government Center Underfloor Air Distribution Upgrades	$130,727
17	ECM 19 Honor Farm Kitchen Hood Controls	$76,307
18	ECM 20a Department of General Services (160 CPUs) Personal Computer EMS	$1,145
19	ECM 20b Planning (212 CPUs) Personal Computer EMS	$1,518
20	ECM 21A Various County Buildings EMCS Expansion	$282,324
21	Startup/ Commissioning/ Training/ Turnover	$135,815
22	Performance Verification	$90,543
	TOTAL	**$4,527,159**

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EXHIBIT C

ESTIMATED PROJECT SCHEDULE

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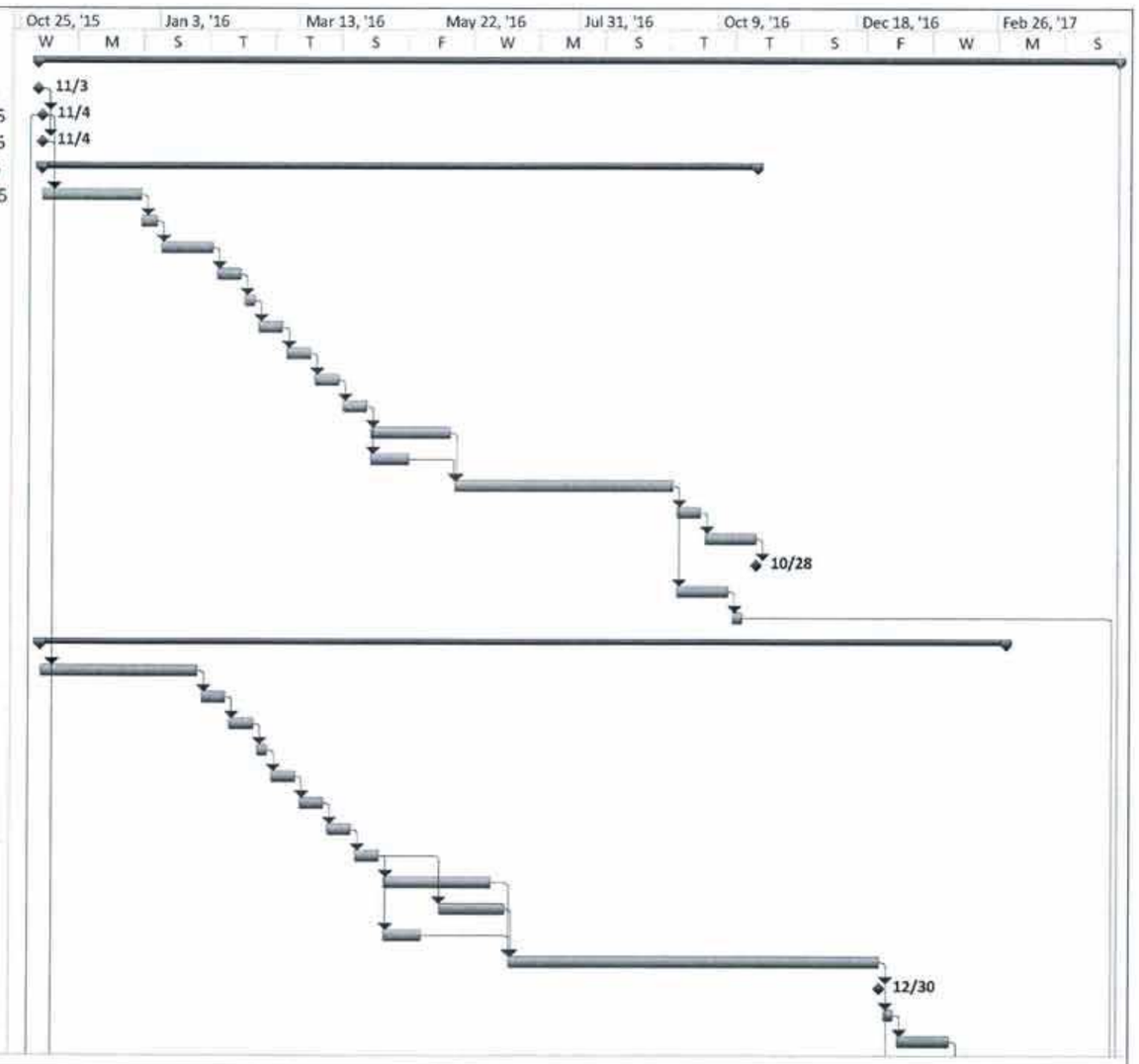
Pacific Gas and Electric Company

ID	Task Name	Duration	Start	Finish
1	**County of SLO SST Design Build Project**	**389 days**	**Tue 11/3/15**	**Fri 4/28/17**
2	County Board of Supervisors Meeting	0 days	Tue 11/3/15	Tue 11/3/15
3	Notice to Proceed - OBF & County Funded Measures	0 days	Wed 11/4/15	Wed 11/4/15
4	Notice to Proceed - CEC Funded Measures	0 days	Wed 11/4/15	Wed 11/4/15
5	**Lighting at Various Buildings**	**257 days**	**Thu 11/5/15**	**Fri 10/28/16**
6	Prepare Design Documents	36 days	Thu 11/5/15	Thu 12/24/15
7	Christmas Break	6 days	Fri 12/25/15	Fri 1/1/16
8	County Design Review	20 days	Mon 1/4/16	Fri 1/29/16
9	Submit Final Design Docs	10 days	Mon 2/1/16	Fri 2/12/16
10	Plan Check & Permit	5 days	Mon 2/15/16	Fri 2/19/16
11	Generate Material Submittals	10 days	Mon 2/22/16	Fri 3/4/16
12	County Submittal Review	10 days	Mon 3/7/16	Fri 3/18/16
13	Resubmittals (if neccessary)	10 days	Mon 3/21/16	Fri 4/1/16
14	County Submittal Approval	10 days	Mon 4/4/16	Fri 4/15/16
15	Order Materials - Lead Time	30 days	Mon 4/18/16	Fri 5/27/16
16	Schedule Work/Outages with Building Occupants	15 days	Mon 4/18/16	Fri 5/6/16
17	Installation	80 days	Mon 5/30/16	Fri 9/16/16
18	Commissioning/ Punchlist	10 days	Mon 9/19/16	Fri 9/30/16
19	Training/ Closeout Docs	20 days	Mon 10/3/16	Fri 10/28/16
20	Substantial Completion	0 days	Fri 10/28/16	Fri 10/28/16
21	Gather M&V Data	20 days	Mon 9/19/16	Fri 10/14/16
22	Prepare M&V Report	5 days	Mon 10/17/16	Fri 10/21/16
23	**Downtown Central Plant**	**347 days**	**Thu 11/5/15**	**Fri 3/3/17**
24	Prepare Design Documents	57 days	Thu 11/5/15	Fri 1/22/16
25	County Design Review	10 days	Mon 1/25/16	Fri 2/5/16
26	Submit Final Design Docs	10 days	Mon 2/8/16	Fri 2/19/16
27	Plan Check & Permit	5 days	Mon 2/22/16	Fri 2/26/16
28	Generate Material Submittals	10 days	Mon 2/29/16	Fri 3/11/16
29	County Submittal Review	10 days	Mon 3/14/16	Fri 3/25/16
30	Resubmittals (if neccessary)	10 days	Mon 3/28/16	Fri 4/8/16
31	County Submittal Approval	10 days	Mon 4/11/16	Fri 4/22/16
32	Order Materials - Lead Time	40 days	Mon 4/25/16	Fri 6/17/16
33	Selective Demolition	25 days	Mon 5/23/16	Fri 6/24/16
34	Schedule Work/Outages with Building Occupants	15 days	Mon 4/25/16	Fri 5/13/16
35	Installation	135 days	Mon 6/27/16	Fri 12/30/16
36	Utility Inspection	0 days	Fri 12/30/16	Fri 12/30/16
37	Commissioning/ Punchlist	5 days	Mon 1/2/17	Fri 1/6/17
38	Training/ Closeout Docs	20 days	Mon 1/9/17	Fri 2/3/17

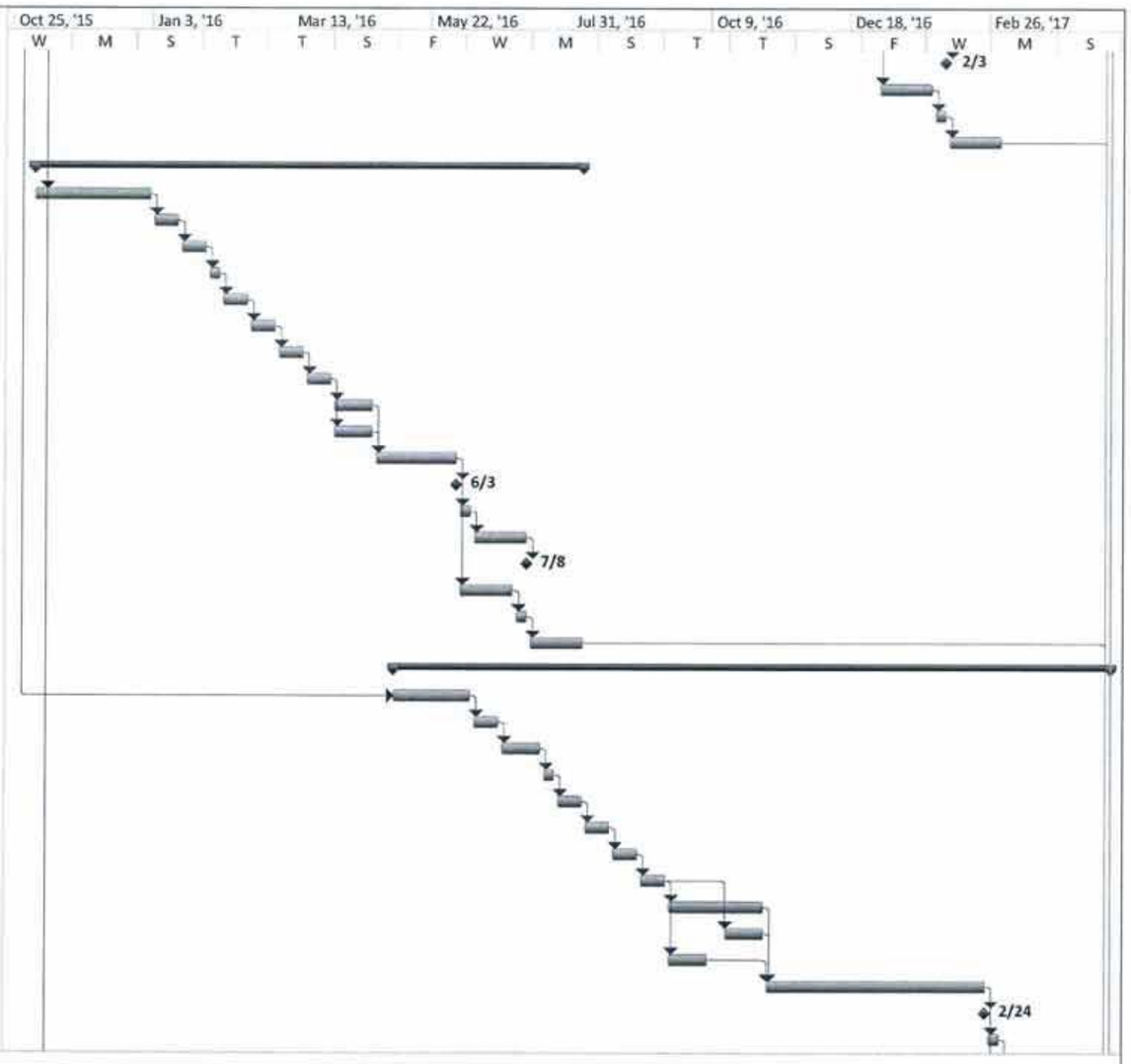


Project: Co SLO Design Build Sche
Date: Fri 10/16/15

Task	Project Summary	Inactive Milestone	Manual Summary Rollup	Deadline
Split	External Tasks	Inactive Summary	Manual Summary	Progress
Milestone	External Milestone	Manual Task	Start-only
Summary	Inactive Task	Duration-only	Finish-only

Pacific Gas and Electric Company

ID	Task Name	Duration	Start	Finish
39	Substantial Completion	0 days	Fri 2/3/17	Fri 2/3/17
40	Gather M&V Data	20 days	Mon 1/2/17	Fri 1/27/17
41	Prepare M&V Report	5 days	Mon 1/30/17	Fri 2/3/17
42	Utility Review and Approval	20 days	Mon 2/6/17	Fri 3/3/17
43	**Downtown Variable Flow CHW & HHW**	**197 days**	**Thu 11/5/15**	**Fri 8/5/16**
44	Prepare Design Documents	42 days	Thu 11/5/15	Fri 1/1/16
45	County Design Review	10 days	Mon 1/4/16	Fri 1/15/16
46	Submit Final Design Docs	10 days	Mon 1/18/16	Fri 1/29/16
47	Plan Check & Permit	5 days	Mon 2/1/16	Fri 2/5/16
48	Generate Material Submittals	10 days	Mon 2/8/16	Fri 2/19/16
49	County Submittal Review	10 days	Mon 2/22/16	Fri 3/4/16
50	Resubmittals (if neccessary)	10 days	Mon 3/7/16	Fri 3/18/16
51	County Submittal Approval	10 days	Mon 3/21/16	Fri 4/1/16
52	Order Materials - Lead Time	15 days	Mon 4/4/16	Fri 4/22/16
53	Schedule Work/Outages with Building Occupants	15 days	Mon 4/4/16	Fri 4/22/16
54	Installation	30 days	Mon 4/25/16	Fri 6/3/16
55	Utility Inspection	0 days	Fri 6/3/16	Fri 6/3/16
56	Commissioning/ Punchlist	5 days	Mon 6/6/16	Fri 6/10/16
57	Training/ Closeout Docs	20 days	Mon 6/13/16	Fri 7/8/16
58	Substantial Completion	0 days	Fri 7/8/16	Fri 7/8/16
59	Gather M&V Data	20 days	Mon 6/6/16	Fri 7/1/16
60	Prepare M&V Report	5 days	Mon 7/4/16	Fri 7/8/16
61	Utility Review and Approval	20 days	Mon 7/11/16	Fri 8/5/16
62	**Health Campus Central Plant**	**258 days**	**Wed 5/4/16**	**Fri 4/28/17**
63	Prepare Design Documents	28 days	Wed 5/4/16	Fri 6/10/16
64	County Design Review	10 days	Mon 6/13/16	Fri 6/24/16
65	Submit Final Design Docs	15 days	Mon 6/27/16	Fri 7/15/16
66	Plan Check & Permit	5 days	Mon 7/18/16	Fri 7/22/16
67	Generate Material Submittals	10 days	Mon 7/25/16	Fri 8/5/16
68	County Submittal Review	10 days	Mon 8/8/16	Fri 8/19/16
69	Resubmittals (if neccessary)	10 days	Mon 8/22/16	Fri 9/2/16
70	County Submittal Approval	10 days	Mon 9/5/16	Fri 9/16/16
71	Order Materials - Lead Time	35 days	Mon 9/19/16	Fri 11/4/16
72	Selective Demolition	15 days	Mon 10/17/16	Fri 11/4/16
73	Schedule Work/Outages with Building Occupants	15 days	Mon 9/19/16	Fri 10/7/16
74	Installation	80 days	Mon 11/7/16	Fri 2/24/17
75	Utility Inspection	0 days	Fri 2/24/17	Fri 2/24/17
76	Commissioning/ Punchlist	5 days	Mon 2/27/17	Fri 3/3/17

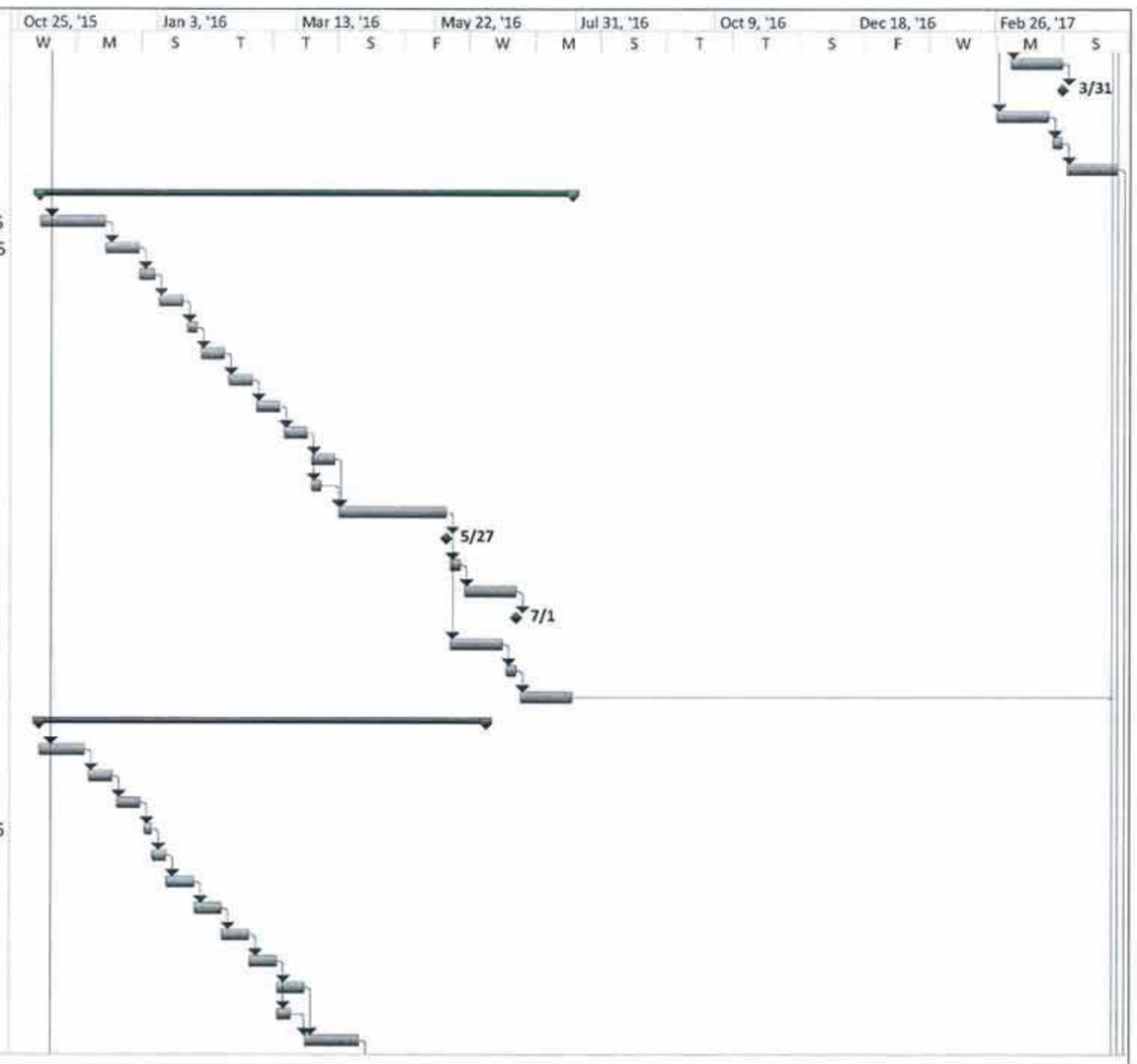


Project: Co SLO Design Build Sche
Date: Fri 10/16/15

Task	Project Summary	Inactive Milestone	Manual Summary Rollup	Deadline	
Split	External Tasks	Inactive Summary	Manual Summary	Progress	
Milestone	External Milestone	Manual Task	Start-only		
Summary	Inactive Task	Duration-only	Finish-only		

Pacific Gas and Electric Company

ID	Task Name	Duration	Start	Finish
77	Training/ Closeout Docs	20 days	Mon 3/6/17	Fri 3/31/17
78	Substantial Completion	0 days	Fri 3/31/17	Fri 3/31/17
79	Gather M&V Data	20 days	Mon 2/27/17	Fri 3/24/17
80	Prepare M&V Report	5 days	Mon 3/27/17	Fri 3/31/17
81	Utility Review and Approval	20 days	Mon 4/3/17	Fri 4/28/17
82	**New Government Center Underfloor Distribution**	**192 days**	**Thu 11/5/15**	**Fri 7/29/16**
83	Prepare Design Documents	23 days	Thu 11/5/15	Mon 12/7/15
84	County Design Review	13 days	Tue 12/8/15	Thu 12/24/15
85	Christmas Break	6 days	Fri 12/25/15	Fri 1/1/16
86	Submit Final Design Docs	10 days	Mon 1/4/16	Fri 1/15/16
87	Plan Check & Permit	5 days	Mon 1/18/16	Fri 1/22/16
88	Generate Material Submittals	10 days	Mon 1/25/16	Fri 2/5/16
89	County Submittal Review	10 days	Mon 2/8/16	Fri 2/19/16
90	Resubmittals (if neccessary)	10 days	Mon 2/22/16	Fri 3/4/16
91	County Submittal Approval	10 days	Mon 3/7/16	Fri 3/18/16
92	Order Materials - Lead Time	10 days	Mon 3/21/16	Fri 4/1/16
93	Schedule Work/Outages with Building Occupants	5 days	Mon 3/21/16	Fri 3/25/16
94	Installation	40 days	Mon 4/4/16	Fri 5/27/16
95	Utility Inspection	0 days	Fri 5/27/16	Fri 5/27/16
96	Commissioning/ Punchlist	5 days	Mon 5/30/16	Fri 6/3/16
97	Training/ Closeout Docs	20 days	Mon 6/6/16	Fri 7/1/16
98	Substantial Completion	0 days	Fri 7/1/16	Fri 7/1/16
99	Gather M&V Data	20 days	Mon 5/30/16	Fri 6/24/16
100	Prepare M&V Report	5 days	Mon 6/27/16	Fri 7/1/16
101	Utility Review and Approval	20 days	Mon 7/4/16	Fri 7/29/16
102	**Honor Farm Kitchen Hood Controls**	**161 days**	**Thu 11/5/15**	**Thu 6/16/16**
103	Prepare Design Documents	17 days	Thu 11/5/15	Fri 11/27/15
104	County Design Review	10 days	Mon 11/30/15	Fri 12/11/15
105	Submit Final Design Docs	10 days	Mon 12/14/15	Fri 12/25/15
106	Christmas Break	4 days	Mon 12/28/15	Thu 12/31/15
107	Plan Check & Permit	5 days	Fri 1/1/16	Thu 1/7/16
108	Generate Material Submittals	10 days	Fri 1/8/16	Thu 1/21/16
109	County Submittal Review	10 days	Fri 1/22/16	Thu 2/4/16
110	Resubmittals (if neccessary)	10 days	Fri 2/5/16	Thu 2/18/16
111	County Submittal Approval	10 days	Fri 2/19/16	Thu 3/3/16
112	Order Materials - Lead Time	10 days	Fri 3/4/16	Thu 3/17/16
113	Schedule Work/Outages with Building Occupants	5 days	Fri 3/4/16	Thu 3/10/16
114	Installation	20 days	Fri 3/18/16	Thu 4/14/16

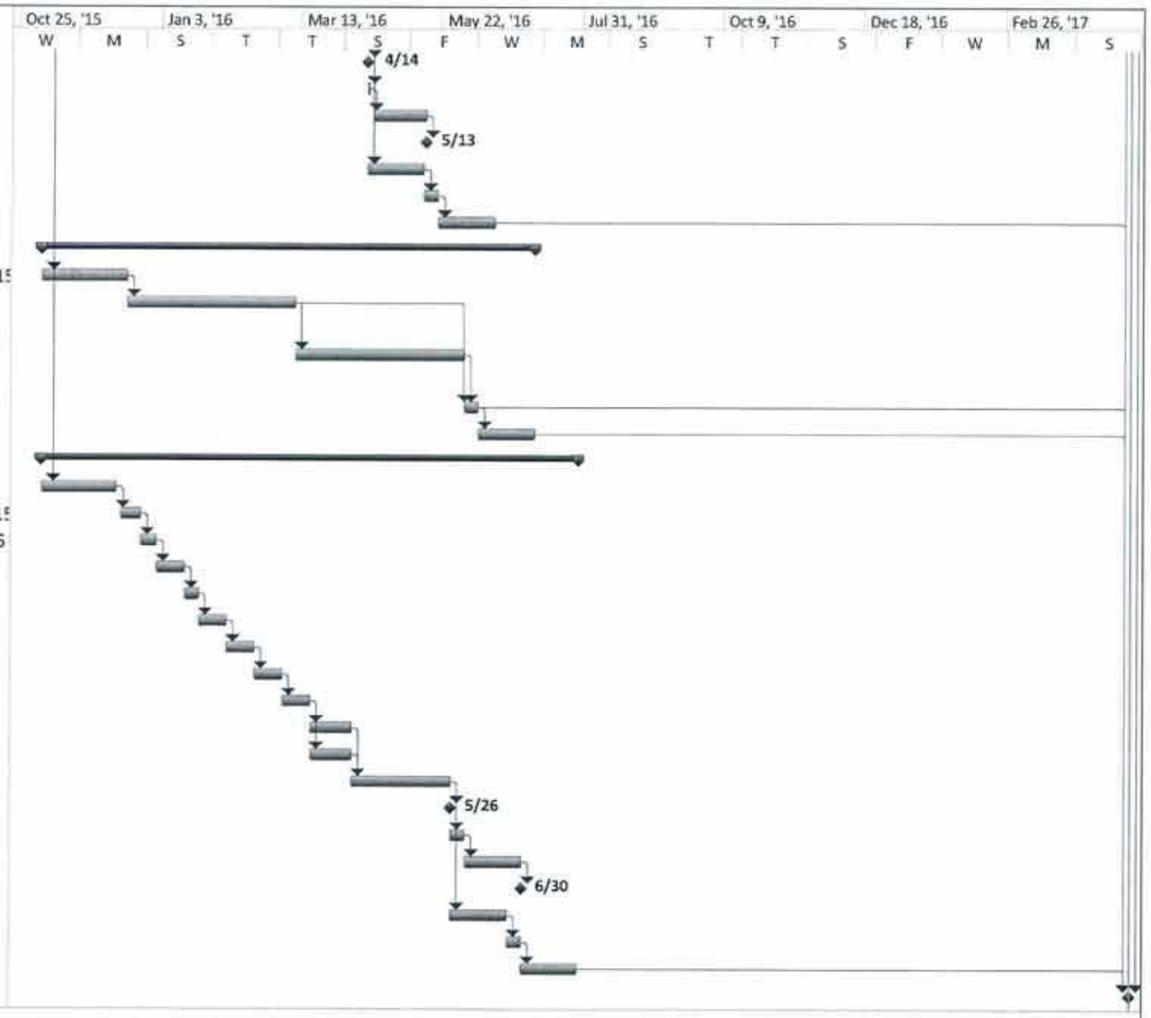


Project: Co SLO Design Build Sche
Date: Fri 10/16/15

Task	Project Summary	Inactive Milestone	Manual Summary Rollup	Deadline
Split	External Tasks	Inactive Summary	Manual Summary	Progress
Milestone	External Milestone	Manual Task	Start-only	
Summary	Inactive Task	Duration-only	Finish-only	

Pacific Gas and Electric Company

ID	Task Name	Duration	Start	Finish
115	Utility Inspection	0 days	Thu 4/14/16	Thu 4/14/16
116	Commissioning/ Punchlist	1 day	Fri 4/15/16	Fri 4/15/16
117	Training/ Closeout Docs	20 days	Mon 4/18/16	Fri 5/13/16
118	Substantial Completion	0 days	Fri 5/13/16	Fri 5/13/16
119	Gather M&V Data	20 days	Fri 4/15/16	Thu 5/12/16
120	Prepare M&V Report	5 days	Fri 5/13/16	Thu 5/19/16
121	Utility Review and Approval	20 days	Fri 5/20/16	Thu 6/16/16
122	**PC EMS**	**175 days**	**Thu 11/5/15**	**Wed 7/6/16**
123	Surveyor - Establish Baseline	30 days	Thu 11/5/15	Wed 12/16/15
124	Deploy Microsoft System Configuration Manager - Planning	60 days	Thu 12/17/15	Wed 3/9/16
125	Deploy Microsoft System Configuration Manager - General Services	60 days	Thu 3/10/16	Wed 6/1/16
126	Prepare M&V Report	5 days	Thu 6/2/16	Wed 6/8/16
127	Utility Review and Approval	20 days	Thu 6/9/16	Wed 7/6/16
128	**EMCS Expansion**	**191 days**	**Thu 11/5/15**	**Thu 7/28/16**
129	Prepare Design Documents	27 days	Thu 11/5/15	Fri 12/11/15
130	County Design Review	8 days	Mon 12/14/15	Wed 12/23/15
131	Christmas Break	6 days	Thu 12/24/15	Thu 12/31/15
132	Submit Final Design Docs	10 days	Fri 1/1/16	Thu 1/14/16
133	Plan Check & Permit	5 days	Fri 1/15/16	Thu 1/21/16
134	Generate Material Submittals	10 days	Fri 1/22/16	Thu 2/4/16
135	County Submittal Review	10 days	Fri 2/5/16	Thu 2/18/16
136	Resubmittals (if neccessary)	10 days	Fri 2/19/16	Thu 3/3/16
137	County Submittal Approval	10 days	Fri 3/4/16	Thu 3/17/16
138	Order Materials - Lead Time	15 days	Fri 3/18/16	Thu 4/7/16
139	Schedule Work/Outages with Building Occupants	15 days	Fri 3/18/16	Thu 4/7/16
140	Installation	35 days	Fri 4/8/16	Thu 5/26/16
141	Utility Inspection	0 days	Thu 5/26/16	Thu 5/26/16
142	Commissioning/ Punchlist	5 days	Fri 5/27/16	Thu 6/2/16
143	Training/ Closeout Docs	20 days	Fri 6/3/16	Thu 6/30/16
144	Substantial Completion	0 days	Thu 6/30/16	Thu 6/30/16
145	Gather M&V Data	20 days	Fri 5/27/16	Thu 6/23/16
146	Prepare M&V Report	5 days	Fri 6/24/16	Thu 6/30/16
147	Utility Review and Approval	20 days	Fri 7/1/16	Thu 7/28/16
148	Contract Completion	0 days	Fri 4/28/17	Fri 4/28/17



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Task	Project Summary	Inactive Milestone	Manual Summary Rollup	Deadline
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Pacific Gas and Electric Company

EXHIBIT D
HAZARDOUS MATERIALS SCOPE OF WORK

Review of Hazardous Material Reports - County of San Luis Obispo

ECM	Facility	ECM Description	ECM Action	Asbestos Status	Haz Mat Scope of Work
1a	Annex	Lighting Upgrades	Interior relamp/retrofit, Occ sensors, exterior fixture replacement	Possible asbestos in ceiling tiles/ceiling plaster per report dated 9/16/15	None, retrofit should not disturb ceiling tiles, floor tiles, plaster or insulation
1b	Old Government Center	Lighting Upgrades	Interior relamp/retrofit, Occ sensors, exterior fixture replacement	Possible asbestos in ceiling tiles/ceiling plaster per report dated 9/16/15	None, retrofit should not disturb ceiling tiles, floor tiles, plaster or insulation
1c	Old Courthouse	Lighting Upgrades	Interior relamp/retrofit, Occ sensors, exterior fixture replacement	Possible asbestos in ceiling tiles/ceiling plaster per report dated 9/16/15	None, retrofit should not disturb ceiling tiles, floor tiles, plaster or insulation
1d	New Government Center (Board Chamber)	Lighting Upgrades	Interior relamp/retrofit, Occ sensors, exterior fixture replacement	No asbestos in samples taken per report dated 9/16/15	None
1f	Main Jail	Lighting Upgrades	Interior relamp/retrofit, Occ sensors, exterior fixture replacement	Possible asbestos in ceiling tiles and spray on insulation per report dated 9/16/15	None, retrofit should not disturb ceiling tiles, floor tiles, plaster or insulation
1h	Honor Farm	Lighting Upgrades	Interior relamp/retrofit, Occ sensors, exterior fixture replacement	No asbestos in samples taken per report dated 9/16/15	None
1i	Health Campus	Lighting Upgrades	Interior relamp/retrofit, Occ sensors, exterior fixture replacement	Possible asbestos in floor tiles per reports dated 2/3/15 and 9/16/15	None, retrofit should not disturb ceiling tiles, floor tiles, plaster or insulation
1j	Health Lab	Lighting Upgrades	Interior relamp/retrofit, Occ sensors, exterior fixture replacement	Possible asbestos in floor tiles per report dated 9/16/15	None, retrofit should not disturb ceiling tiles, floor tiles, plaster or insulation
6	Government Center Complex	Central Plant Upgrades	Chiller replacement, piping/pump modifications, insulation repairs, controls	Possible asbestos in insulation mastic per report dated 9/16/15	Possible localized mitigation required for CHW and HHW piping insulation
2, 3	Government Center Complex	Variable Flow CHW and HHW	Valve replacement, insulation repair, pump replacement, VFDs, sensors	Possible asbestos in insulation mastic per report dated 9/16/15	Possible localized mitigation required for CHW and HHW piping insulation
7	Health Campus	Central Plant Upgrades	Chiller replacement, piping/pump modifications, insulation repairs, controls	Possible asbestos in insulation mastic per reports dated 2/3/15 and 9/16/15	Possible localized mitigation required for CHW and HHW piping insulation
8	New Government Center	Underfloor Air Distribution	New motors for fan powered VAV boxes, controls	No report	None
19	Honor Farm	Kitchen Hood Controls	Fan motor VFDs and controls	No asbestos in samples taken per report dated 9/16/15	None
20a	Department of General Services	Personal Computer EMS	PC programming	N/A	No impact
20b	Planning	Personal Computer EMS	PC programming	N/A	No impact
21a	Various County Buildings	EMCS Expansion	Remote building control panels and thermostats	No reports	None

_____ _____ initials